Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics

Master's Thesis

European Union-Bangladesh trade relations and their effect on Bangladesh economic growth.

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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DIPLOMA THESIS ASSIGNMENT

Md Belayet Hossain

Economics and Management
Economics and Management

Thesis title

European Union-Bangladesh trade relations and their effect on Bangladesh economic growth

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Objectives of thesis

The European Union is the largest export destination of Bangladesh. This fact allows to consider EU as a key foreign trade partner that plays an important role in economic development of Bangladesh. For that reason it becomes interesting to investigate the development of EU-Bangladesh relations and identify their influence (if any) on Bangladesh economic performance.
To achieve this goal the following partial research questions are stated:
- how the content and structure of the Bangladesh foreign trade has been changing over the last 20 years?
- what is the relationship between Bangladesh's GDP per capita and developmant of EU-Bangladesh trade relations?
- what are the main determinants of foreign trade development in Bangladesh?
On the basis of gathered data for the period from 2000 to 2020, the revealed comparative advantage (RCA) of the Bangladesh exports will also be evaluated, answering thus the question of whether the the People's Republic of Bangladesh has conquered its own niche in the EU market.

Methodology

The synthesis of relevant information from various reliable resources represented by printed literature, scientific articles, surveys, web sources will be done and used then in the practical part of the Master thesis. Both theoretical and practical parts will rest on descriptive analysis and thematic synthesis. Own research work will be based on index and regression analysis along with comparative techniques and statistical inference.

The proposed extent of the thesis

60-80

Keywords

European Union, Bangladesh, Foreign trade, Economic performance

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Recommended information sources

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Prague on 31. 03. 2022

Declaration

I declare that I have worked on my master's thesis titled " European Union-Bangladesh trade relations and their effect on Bangladesh economic growth " by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

In Prague on 31st March 2022 _____

Md Belayet Hossain

Acknowledgement

I would like to thank Mgr. Elena Kuzmenko, Ph. D. for her help and guidance when I was working on my thesis from initial level to finalisation. She gave me most of the key information on my thesis. I am always please with her patience because she always clarifies all of my concerns. Her advice was quite helpful.

European Union-Bangladesh trade relations and their effect on Bangladesh economic growth

Abstract

The main aim of the master's thesis is to examine the trade relationship between the European Union and Bangladesh, as well as their impact on Bangladesh's economic growth, from 2001 to 2020. Based on the partial secondary objectives, this aim has been achieved. These were designed to identify and verify elements that might have an impact on Bangladesh's income per capita and economic development.

The thesis was discussed both theoretical and practical aspects. The theoretical part includes the theoretical background of foreign trade theories, determinants of foreign trade development, international organizations. This part also discussed the EU-Bangladesh bilateral agreement, the history of cooperation, as well as the methodological framework. End of the theoretical part, the impact of international trade on economic growth are analysed. The practical section contains the Reveal Comparative Advantage (RCA), the Balassa Index, commodity, and regional trade structure, net FDI inflows to Bangladesh, net bilateral aid inflows, and selected macroeconomic indicators to illustrate Bangladesh's economic performance. The econometric analysis was based on the time-series data at the end of the practical part.

According to this analysis, all independent variables (net export with EU, net FDI inflows from EU, net bilateral aid inflows from EU) had a positive impact on Bangladesh's GDP per capita (dependent variable). The regression analysis results are presented, along with some recommendations.

Keywords: Bangladesh, European Union, International trade, Trade structure, Trading partner, Revealed comparative advantage, Regression analysis, Per capita GDP, Net export, Foreign direct investment, Bilateral Aid.

Obchodní vztahy mezi Evropskou unií a Bangladéšem a jejich vliv na ekonomický růst Bangladéše.

Abstrakt

Hlavním cílem diplomové práce je prozkoumat obchodní vztah mezi Evropskou unií a Bangladéšem a také jejich vliv na ekonomický růst Bangladéše v letech 2001 až 2020. Na základě dílčích sekundárních cílů byl tento cíl splněn. Ty byly navrženy tak, aby identifikovaly a ověřily prvky, které by mohly mít dopad na bangladéšský příjem na hlavu a ekonomický rozvoj.

Práce byla diskutována jak po teoretické, tak praktické stránce. Teoretická část obsahuje teoretická východiska teorií zahraničního obchodu, determinanty vývoje zahraničního obchodu, mezinárodní organizace. V této části byla diskutována také bilaterální dohoda mezi EU a Bangladéšem, historie spolupráce a také metodický rámec. V závěru teoretické části je analyzován vliv mezinárodního obchodu na ekonomický růst. Praktická část obsahuje Reveal Comparative Advantage (RCA), Balassův index, komoditní a regionální obchodní strukturu, čistý příliv FDI do Bangladéše, čistý příliv bilaterální pomoci a vybrané makroekonomické ukazatele pro ilustraci ekonomické výkonnosti Bangladéše. Ekonometrická analýza byla založena na datech z časových řad na konci praktické části.

Podle této analýzy měly všechny nezávislé proměnné (čistý export s EU, čistý příliv FDI z EU, čistý příliv bilaterální pomoci z EU) pozitivní dopad na bangladéšský HDP na hlavu (závislá proměnná). Jsou uvedeny výsledky regresní analýzy spolu s některými doporučeními.

Klíčová slova: Bangladéš, Evropská unie, Mezinárodní obchod, Struktura obchodu, Obchodní partner, Odhalená komparativní výhoda, Regresní analýza, GDP na obyvatele, Čistý export, Přímé zahraniční investice, Bilaterální pomoc..

Table of content

List of Figure

List of tables

List of abbreviations

ACU	Asian Clearing Union
AFD	Agency Francoise De Development
ASEAN	Association of Southeast Asian Nations
DAC	Development Assistance Committee
DPs	Development Partners
D-8	Developing Eight
EBA	Everything But Arms
EC	European Commission
EIB	European Investment Bank
EPB	Export Promotion Bureau
EU	European Union
EUR	Euro
FDI	Foreign Direct Investment
FTA	Free trade agreement
GAIN	Global Alliance for Improved Nutrition
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GNI	Gross National Income
GSP	Generalised Scheme of Preferences
IMF	International Monetary Fund
LDCs	Least Developed Countries
NAFTA	North American Free Trade Agreement
OIC	Organisation of Islamic Cooperation
OPEC	Organization of the Petroleum Exporting Countries
RCA	Revealed Comparative Advantage
RMG	Readymade Garments
SAARC	South Asian Association for Regional Cooperation
SDC	Swiss Agency for Development and Cooperation
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
USA	United States of America

WITS	World Integrated Trade Solutions
WTO	World Trade Organization

1. Introduction

European Union (EU) is a promising market for Bangladeshi commodities. It is the largest trading partner of Bangladesh and a top export destination particularly for textiles, knit and woven RMG, and frozen food. (Centre for Policy Dialogue, 2012) . In 2020, Bangladesh exported to the EU around 15470 million US which is 58.7% of total exports to the world (Bangladesh Bank, 2021).

The European Union (EU) was established on November 1, 1993, with 12 member nations, and now includes 27. The EU is a major player in the global economy, accounting for a quarter of global GDP, more than a fifth of global trade, and almost two-thirds of OECD aid (OECD, 2022). In terms of trade, remittances, investment, and aid, the EU plays a significant role in the global economy. Bangladesh continues to rely on the EU as an important economic partner, a source of remittances, and a source of investment. Bangladesh is the third-largest Asian beneficiary of EU institutional funding. The majority of Bangladesh's aid came from EU nations and organisations.

Bangladesh and European Union (EU) diplomatic relations were established in 1973. Negotiations with the Community began in 1974, and in 1976, they signed a Commercial Cooperation Agreement and established a Joint Commission on Trade and Economic Cooperation. The European Commission opened a Dhaka office in 1982, initially under the aegis of the Commission's South Asia Delegation in New Delhi. The office was thereafter upgraded to a full delegation in 1988.

A further agreement on textiles in 1986 gave Bangladesh textile and garment exports quota-free access to the European Communities. The cooperation grew stronger over time, reaching a new level of partnership in 2001 with the third generation Co-operation Agreement, which expanded the scope of cooperation to include a wide range of spheres such as support for sustainable economic and social development, trade aid, governance, environment, science and technology, information, culture, and communication, among others.

The EU plays a beneficial role in influencing the international community's response to the most serious economic issues as a global economic power (European Commission, 2021). The EU is the top export destination for Bangladesh, especially for textiles, knit and woven RMG, and frozen food.

The EU cooperate closely with Bangladesh through the "Commercial Cooperation Agreement" between the two countries," since 1976 (Rahman et al., 2000). The EU-Bangladesh four Country Strategy Papers were released in 1993, 1999, 2002, and 2007(Rahman M, 2011). EU-Bangladesh cooperation agreement extends to trade and economic development, human rights, good governance, and the environment (European Commission, 2013)

The European Union is the world's largest donor of development aid and a major source of climate finance. It engages in a variety of political initiatives to alleviate poverty and provides aid to poor nations (European Commission, 2021). Between 2014 and 2020 Bangladesh got €655 million from the EU for human capital development, food security, nutrition, and sustainable development, as well as democratic governance. (European Commission, 2021)

The analysis of the European Union-Bangladesh trade relations is interesting to me because I got the opportunity to analyse the effect of EU- Bangladesh trade relations on Bangladesh‘s economic growth and development over the last 20 years. EU- Bangladesh trade performance during the period of 2001- 2020 will be analysed in this Master thesis. I believe it will be interesting to review past performances and therefore predict future opportunities based on the analysis.

This Master thesis will also review the main trade partners of Bangladesh and how the relations can be enriched. It is also beneficial to know the advantage and disadvantages of this trade relation and what are the main determinants of foreign trade development in Bangladesh. On the basis of the analysis, a brief conclusion will be provided along with recommendations.

2. Objectives and Methodology

2.1Objectives

The European Union is the largest export destination of Bangladesh. This fact allows us to consider the EU as a key foreign trade partner that plays an important role in the economic development of Bangladesh. For that reason, it becomes interesting to investigate the development of the EU-Bangladesh trade relationship and identify their influence (if any) on Bangladesh's economic performance.

The main aim of the Master's thesis is to analyse the European Union-Bangladesh trade relations and their effect on Bangladesh's economic growth in the period from 2001 to 2020. To achieve this goal, I have to the analysis of the European Union-Bangladesh trade relation, foreign direct investment, foreign aid, agreements, bilateral cooperation, and then the following research questions will be raised and gradually answered:

- How the content and structure of Bangladesh's foreign trade has been changing over the last 20 years?
- What is the relationship between Bangladesh's GDP per capita and the development of EU-Bangladesh trade relations?
- What are the main determinants of foreign trade development in Bangladesh?

Based on gathered data for the period from 2001 to 2020, the revealed comparative advantage (RCA) of Bangladesh exports will also be evaluated, answering thus the question of whether the People's Republic of Bangladesh has conquered its niche in the EU market.

This Diploma Thesis examines the years 2001 to 2020. The main reason for selecting this period is the different historical events, agreements were conducted that influenced foreign trade and Bangladesh's economic development.

2.2. Methodology

The diploma thesis will cover both theoretical and empirical parts. The theoretical part will contain the theoretical background of the selected topic as well as the methodological framework, a description of the trade relationship between the EU and Bangladesh specifically international trade, Foreign Direct Investment (FDI), foreign development assistance, and GDP. Furthermore, an econometric background overview is necessary to establish the second part of the thesis.

The synthesis of relevant information from various reliable resources represented by printed literature, scientific articles, web sources will be done and used then in the practical part of the Master thesis. In both the theoretical and practical parts, thematic synthesis and descriptive analysis will be applied.

I will conclude my thesis based on trade relations and economic cooperation of Bangladesh with the EU. All data has been gathered from a variety of sources between the years 2001 and 2020. The empirical analysis will be based mainly on the econometric analysis of the time series.

The following variables will be used in econometric modelling to demonstrate the econometric model:

- Bangladesh per capita income (current); **Dependent Variable**
- Net export (export-import) of Bangladesh with to EU; **Independent Variable**
- Foreign Direct Investment (FDI) in Bangladesh from EU; **Independent Variable**
- Foreign development assistance from EU; **Independent Variable**

I will use several analytical techniques and methodologies to achieve the goals of my master's thesis, including quantitative methods, comparative analysis, statistical verification, economical verification, and regression modelling. Other suitable methods will be employed as well. This part is going to utilize the Gretel software.

In this thesis, to do a regression analysis, I must first make an independent variable, after which I may estimate how this independent variable is related to changes in the dependent variable.

$$Y_i = \beta_0 + \beta_1 X_i + \in_i \qquad (1)$$

Where, Yi = dependent variable.

β_0 = intercept.

X_i =independent variable

$\in_i$ = disturbance term

Linear regression usually takes data from an existing data set of measurements of the values of two variables, X and Y, to create a model that can predict the value of the dependent variable, Y, for given values of X.

In the next phase in the methodology, I will analyse the Economic relationship between GDP per capita, net export, Foreign aid for development, and net FDI inflows by using regression analysis and comparative methodologies towards the conclusion of the practical portion.

For this, the Ordinary Least Squares Regression method will be used.

$$\hat{\beta} = (X^T X)^{-1} X^T Y \qquad (2)$$

Where,

$\hat{\beta}$ = Ordinary least squares estimator

X = Matrix regressor variable

T = Matrix transpose

Y = Vector of the value of the response variable

Before estimating the parameters, the correlation matrix will be used to check multicollinearity and eliminate it. Multicollinearity is a concern because it prevents the separation of regressor and regressand influences. It also creates doubt regarding an independent variable statistical significance. (Allen, 1997).

After estimating parameters, it will be checked for economic inference, statistical significance, and the validity of econometric assumptions.

The relationships between variables will be presented in the context of economic verification. It is a quantitative approach to describing how the dependent variable changes when one of the independent variables changes while the others remain constant.

The degree of consistency between the estimated models and data will be determined and explained within the context of statistical verification. The F-test and t-test will be used to examine the significance of the overall model as well as the relevance of individual parameters.

The **F-test** is used as a formal test of the model utility to determine its overall significance. (Devore, 2011).

Given the hypotheses:

Null hypothesis ($\mathbf{H_0}$): the model is not significant

Alternative hypothesis ($\mathbf{H_1}$): the model is significant

If F > F* (n-p; α): the model is statistically significant and H0 is rejected.

The **T-test** is used to determine whether there is statistical evidence that adding a certain parameter to the model is significant.

Given the following hypotheses:

Null hypothesis **($\mathbf{H_0}$):** an individual parameter is not statistically significant.

Alternative hypothesis **($\mathbf{H_1}$):** an individual parameter is statistically significant.

The generated t-value is compared to a t-table constant value depending on the selected α.

If **t value > tα** : reject H0, the explanatory variable is significant statistically

If **t value < tα** : The explanatory variable is statistically insignificant.

The basic goal of econometric verification is to check for autocorrelation, heteroskedasticity, and residual normality.To check for autocorrelation, the error term observation of residuals is utilized. The Breusch-Godfrey test will be used to look for autocorrelation in residuals.

Null hypothesis ($\mathbf{H_0}$): there is no autocorrelation of residuals in data.

Alternative hypothesis ($\mathbf{H_1}$): there is the autocorrelation of residuals in data.

The White test will be applied to determine heteroskedasticity.

Null hypothesis ($\mathbf{H_0}$): Heteroskedasticity is not present

Alternative hypothesis ($\mathbf{H_1}$): Heteroskedasticity is present

The Jarque-Bera test will be used to determine whether the residuals are normal.

Null hypothesis (**H_0**): Errors are spread normally.

Alternative hypothesis (**H_1**): Error does not follow a normal distribution.

The revealed comparative advantage (RCA) of the Bangladesh exports will also be evaluated, answering thus the question of whether the People's Republic of Bangladesh has conquered its own niche in the EU market.

Revealed Comparative Advantage (RCA) Model:

$$RCA_{ij} = \frac{\frac{Xij}{Xit}}{\frac{Xnj}{Xnt}} \geq 1 \qquad (3)$$

Where,

Xij = i-country exports of j-commodity,

n_j = a group of countries

n_t = a group of goods

When a country has a revealed comparative advantage (RCA>1) for a particular product, it is assumed to be a competitive producer and exporter of that product compared to a country producing and exporting at or below the world average. A country with a disclosed comparative advantage in the product I am said to have a strong export position in that product. The revealed comparative advantage of exported products is provided for all product categories having an RCA greater than one. (UNCTAD, 2022).

This diploma thesis examines the years 2001 to 2020. The main reason for selecting this period is the different historical events that influenced Bangladesh economic situation and foreign trade development. The research is based on data from the Bangladesh Economic Review (BER), Bangladesh Bureau of Statistics (BBS), Bangladesh Bank and statistics from the World Bank's website. All data in the master's thesis is in US dollars.

Although the United Kingdom is no longer a member of the European Union, I had to regard it as such because my study covered the years 2001 to 2020, and the United Kingdom was a member at the time.

3. Literature Review

3.1. Definition of International Cooperation and Trade

International trade is a component of international economic relationships that arise as a result of country-to-country economic cooperation. These interactions include trade in goods, services, assets, and ideas, as well as the implications of laws, rules, and policies such as tariffs, trade quotas, capital restrictions, and the exchange rate regime (The Fletcher School, 2021).

The international economic system is based on the principle of free trade, which aims to reduce government involvement in cross-national trade flows. (John, 1997). International economic relations related to diplomatic relations. Economic diplomacy is the process of making decisions and negotiating international trade agreements (Bayne and Woolcock, 2011).

The process of trading capital, products, and services across nations and integrations is known as international trade. International trade has existed since ancient times, but it was not until the nineteenth century that it acquired a more scientific phrase, when practically all industrialized countries began to participate in it (Gopinath, 2014).

International trade refers to an industry's exports or imports of products and services from there to a foreign seller or buyer. Moreover,International trade is important for economic growth. It encourages competitiveness, specialization, and scale economies while also assisting resource allocation based on comparative advantage (Chengang Wang, 2010).

International trade includes both tangible things (finished goods, machinery and equipment, raw materials, and so on) and intangible goods (copyright and patent rights). As a result, product, service, and intellectual property exchange are all part of international trade. Information, investment, scientific and technical collaboration, international specialization, and manufacturing cooperation are all tied to it.

3.2. Structure of foreign trade

International trade today may be viewed as a three-levelled structure (Khasbulatov, 2014). Different sorts of floors include the ground, middle, and top floors.

- **The bottom level** is occupied by the market for basic items, such as agricultural and extractive-industry products.
- **The middle floor** contains semi-finished and labour-intensive finished items such as construction materials, textiles, and light industry products. On this level, we will find machines, vehicles, basic chemical items, rubber and plastic products, and woodworking products.
- **The top floor** houses high-tech items and products from high-tech enterprises. Office and telecommunications equipment, electronics, electrical equipment, precise measuring instruments, aeronautical technology, medical equipment, medicines, and other high-tech items are among them.

3.3. Determinants of Foreign trade

Foreign trade in a particular country is characterized by the following indicators:

- Economic Growth or Per capita income
- Factor endowments and productivity
- Trade policy or government restrictions
- The share of exports and imports in GDP.
- Foreign currency reserve
- Geographical location
- World Price level and cooperative advantage
- Inflation rate
- Exchange Rate
- Competitiveness
- Bilateral agreement

The state of the country's foreign trade and the level of its development depends primarily on the competitiveness of manufactured goods, the level of which is affected by:

- provision of the country with resources (factors of production), including information and technology.
- capacity and requirements of the domestic market for product quality.
- the level of development of export industries and related industries.

3.4. Theories of the international trade

Many well-known economists worked in the field of international trade. The main theories of international trade include the Mercantilist theory, Adam Smith's theory of absolute advantages, D. Ricardo and D. S. Mill's theory of comparative advantages, Heckscher-Olin theory, The Revealed Comparative Advantage (RCA), Leontief paradox, Product life cycle theory, M. Porter theory, Rybchinsky theorem, and Samuelson and Stolper Theory.

3.4.1. Mercantilism

The mercantile system was historically the first significant school to study the role of international trade in economic growth. The scientific significance of this contribution stems from the fact that a link was discovered between the domestic economy and the internal environment, yet overseas commerce was viewed as a source of wealth creation for the country. The directing is represented by Thomas Man, Antoine de Montchretien, and William Stafford.

The following are the basic provisions:

- The necessity for the trade balance of the state to remain dynamic (excess exports over imports).
- Recognition of the benefits of bringing gold and other precious metals into the country to help the economy.
- Money is a trading incentive; as the mass of money grows, so does the volume of the commodity mass.
- Prohibition of the import of raw materials and semi-finished products, as well as the export of finished items were promoted. The prohibition on the export of luxury items, results in gold leakage from the state.

The major error of the mercantilists was that they ignored the interrelationships between foreign trade and public output, as well as commercial capital and industrial capital (Mill, 2007).

3.4.2.Theory of absolute advantage

In the 18th century, Adam Smith a Scottish philosopher and economist introduced the theory of absolute advantage. He criticized mercantilism for restricting people's capacity to freely trade and profit from voluntary exchange commerce.

The essential principle of this theory is that two countries or two individuals desire to trade two distinct items, and the absolute advantage serves as the foundation for mutually beneficial trade. According to Adam Smith, labour is the main factor of production.

A. Smith formerly believed that a country's wealth was defined not just by its gold reserves, but also by its capacity to generate goods and services. As a result, the development of production as a result of the division of labour and cooperation has become one of the state's concerns. The premise is as follows: countries export products that they produce with lower costs, i.e. in which they have absolute advantages, and I buy things created by other countries at lower costs, i.e. in which trade partners have absolute advantages.

3.4.3.Theory of comparative advantage

The comparative advantage concept was used to determine imports and export. According to D. Ricardo's theory of comparative advantages, trade will be mutually beneficial if countries specialize in producing products that they can manufacture at lower prices than other countries, regardless of whether that country's production is more effective than the other (Iokin, 2000).

The benefits of trade come from lower total costs per unit of production, which is central to the idea of comparative advantages. According to D.Ricardo, free trade helps all parties participating in international trade.

D. Ricardo was the first to investigate the nature of international trade as well as domestic trade. He proposed that comparative advantage is a mix of internal pricing differentials across nations, but those trade directions are decided by relative costs,

independent of product availability or lack of absolute advantage in manufacturing (Mill, 2007).

3.4.4. Heckscher-Ohlin trade model

Two Swedish economists Eli Heckscher and Bertil Ohlin they devised the Heckscher-Ohlin trade model (H-O model). It is often known as the theory of relative factor endowments. This concept is based on David Ricardo's comparative advantage theory. The Heckscher-Ohlin model assumes that factors of production country-wise differ and gain factor endowments. Based on factor endowments, the model explains the comparative advantage.

The Swedish economists worked with two assumptions:

- Countries differ in terms of relative factors of production facilities
- Goods differ in terms of the relative difficulty of elements of production.

This theory is useful for understanding why trade has grown between developed and developing nations in recent years. When developing countries import machinery and equipment in return for raw resources from developed countries. However, the focus of international commerce is moving to mutual trading of "similar" items between "similar" nations.

3.4.5. Leontief paradox

The Leontief paradox is considered the most significant test of the Heckscher-Ohlin trade model. It was the research of an American economist who called into doubt the provisions of the current Heckscher-Olin theory. Leontief demonstrated US economy specialized in the factor of production that needed proportionally more labor, rather than capital.

The core of Leontiev's paradox was that the percentage of capital-intensive commodities in exports may increase while labour-intensive goods could decrease. When looking at the US trade balance, it is clear that the percentage of labor-intensive items has not decreased.

3.4.6. Product Life Cycle Theory

This theory was proposed by R.Verna, C.Kindelberger, and L.Wels. According to them, a product goes through a five-stage cycle from the time it first appears on the market until the time it leaves it. It is as follows:

- Invention of new products. A fresh product concept is discovered and implemented by the firm. Sales are now nothing, but costs are increasing.
- Marketing. Quick market conquest, growth in earnings.
- Profit is missing owing to significant marketing expenditures.
- Maturity. As the majority of customers have already been acquired, sales growth slows.
- Due to higher marketing expenditures, profit levels stay similar or decline.

According to the product life cycle theory, the first-stage manufacturing of high-tech products is only possible in industrialized countries, especially the United States (Mill, 2007).

3.4.7. Theory of M. Porter

The concept of country competitiveness is introduced in this theory. According to Porter, national competitiveness impacts a country's success or failure in individual industries, as well as its position in the global economy. An industry's ability is what determines a country's competitiveness. To retain competitiveness, the state has taken the following steps:

- the effect of government on production conditions.
- the influence of government on demand conditions.
- the influence of government on related and supporting sectors.
- The influence of government on corporate strategy, structure, and competition.

In the 1990s, M.Porter's theoretical premises were used to generate proposals at the state level to improve products competitiveness in Australia, New Zealand, and the United States (Mill, 2007).

3.4.8. The theory of Samuelson and Stolper

American economists P. Samuelson and V. Stolper developed the Heckscher-Olin theory in the middle of the twentieth century (1948). They suggested that international trade equalizes the price of production elements between nations in the situation of homogeneity of production components, technical identity, perfect competition, and total mobility of commodities. According to the authors, trade is a means of bridging the development gap between nations. The theorem is a flaw in that it only examines the impact of international trade and commodity prices on income distribution in a well defined, constrained setting.

3.4.9. Balassa Index (RCA)

The Revealed Comparative Advantage notion is based on the Ricardian comparative advantage principle, which examines a country's relative competitiveness using real trade flows (IGI Global, 2021).

Revealed Comparative Advantage (RCA) is one of the most effective ways of determining comparative advantage in any product, sector, nation, or area in the global market (Kabir, Rashedul...et, 2021).

In 1965, Bela Balassa and Mark Noland developed the Balassa index. The Balassa index compares the percentage of a commodity in a country's total exports to the same commodity's share in the world's total exports or a specific set of nations as a measure of relative comparative advantage (IGI Global, 2021).

When the ratio is more than one, the country has a disclosed comparative advantage, which indicates it receives more than its fair share of commodity trade. The disclosed comparative advantage Balassa index is calculated as follows:

$$RCA_{ij} = \frac{\frac{X_{ij}}{X_{it}}}{\frac{X_{nj}}{X_{nt}}} \geq 1 \qquad (4)$$

Where,

Xij = i-country exports of j-commodity

n_j = a group of countries

n_t = a group of goods

If the resultant figure is more than one, the nation has a comparative advantage in that commodity. If RCA>1, the country has a competitive advantage in that particular commodity.

However, RCA uses post-trade data, any distortions induced by varied trade policies may show up in the results. Furthermore, the Balassa index has an asymmetric value, ranging from 1 to infinity if a nation has demonstrated comparative advantage and only from 0 to 1 if a country has demonstrated disadvantage, which may lead to an overestimation of the sector's relative weight.

Other drawbacks of the Balassa index were listed by Gnidchenko and Salnikov (2015). One of them is that it is affected by the number of product categories that a country exports. That is, if nation A exports just ten categories, the Balassa indices will be greater than if country B exports 20 categories and is, therefore, more diverse. Furthermore, comparing heterogeneous nations is wrong, and the Balassa index can only be used to compare countries with comparable levels of development and involvement in international commerce.

3.5. International Organisations Influencing Foreign Trade

Many international organizations are influencing and aiding in the ease and control of trade flows since international trade needs collaboration among diverse countries. Some of the organizations are as follows:

3.5.1. World Trade Organization (WTO)

The World Trade Institution (WTO) is the only organization in the world that deals with international trade rules(WTO, 2021). It was founded in 1995 and is located in Geneva, Switzerland. Its main goal is to make the GATT (General Agreement on Tariffs and Trade) more easily implemented. The GATT is an international agreement that promotes free international goods trade.

There are 164 member nations and 625 secretariat workers as of February 2022. According to the organization, all key decisions are decided by the whole membership. The WTO follows the one-nation, one-vote principle, which means that each member has an

equal voice in the organization. However, one of the charges levelled at the WTO is that it has smaller groups where serious talks take place, but the least powerful member nations are shut out of informal meetings, influencing overall decision-making (Collins, 2015).

3.5.2. International Monetary Fund (IMF)

The International Monetary Fund encourages international monetary cooperation by ensuring the global monetary system's stability (IMF, 2006). The organization keeps its actions linked with its objective by maintaining a check of global and member country economies, providing financial financing to nations with the balance of payments challenges, and providing practical assistance to members.

The International Monetary Fund (IMF) has 189 members and was founded in 1945 (IMF,2019). It was created in the hopes of preventing a repeat of the disastrous economic policies that led to the Great Depression in the 1930s (IMF, 2006).

3.5.3.Association of Southeast Asian Nations (ASEAN)

The Association of Southeast Asian Nations (ASEAN) was established in Bangkok in August 1967 with five members: Indonesia, Malaysia, the Philippines, Singapore, and Thailand with the purpose of regional peace, stability, and economic prosperity. (Weatherbee, 2019).

The goals of ASEAN are broader than the WTO or the IMF, but its main objectives are to improve collaboration for better agricultural and industrial utilization, as well as to expand trade, which includes international commodity trade, transportation and communication improvements, and raising people's living standards (ASEAN, 2022).Asia-Pacific Economic Cooperation (APEC)

3.6. Regulation instruments of foreign trade

The world economy was strong growth rates in the first half of the twentieth century, which were mostly fueled by the expansion of international commerce, which demanded international regulation. In this regard, following the conclusion of the 2nd World War, several organizations were established to establish a system of multilateral trade regulation (Nikolayeva, 2013).

As techniques of international trade regulation, the GATT Secretariat offered tariff and non-tariff instruments.

3.6.1.Tariff instruments

The most frequent classical device for regulating international trade is a customs tariff, which takes the form of customs charges. A customs tariff is a set of systematized customs tax rates according to product appellation. Moreover, customs duty is a charge that increases the cost of imported goods in the domestic market. The cost of imported goods is increased by an import tax. It is a type of tax collected by the government when products or services pass through the country's customs border.

The customs tariff rate is made up of the commodity code, a brief description of the products, and columns carrying tax rates. Tariffs are also classified according to how they are utilized. Fees for import, export, and transit all apply. Export taxes are a rare occurrence. As a result, they are a list of items subject to import duties rather than an export duty.

3.6.2. Non-tariff instruments

According to Smitiyenko (2009), there are several non-tariff techniques to control trade including administrative limits, quotas, licenses, regulatory tax instruments, and technical trade barriers (Smitiyenko, 2009).

3.6.2.1 Administrative restriction

Administrative export/import controls are subject to many limitations. The World Trade Organization (WTO) allows for limitations to be imposed if they are judged essential due to a shortage of certain commodities on the domestic market. Prohibitions are appropriate in the interests of public morals, population health, and plant life. In the interests of national security, prohibitions on the trafficking of firearms, ammunition, and fissile material.

Import restrictions on precious metals (gold, silver). Bans on technical obstacles to trade, sanitary and phytosanitary measures, agriculture, textiles, and clothes are also permissible under accords

3.6.2.2 Quotas

Quotas are one of the most prevalent ways to control exports or imports in international trade. There are various ways to quote. Quotas exist at all levels, including global, individual, tariff, and seasonal (Smitiyenko, 2009).

- **Global quotas** determine the total amount of items imported that is not allocated among suppliers and can be realized in the order in which requests are sent.
- **Individual Quotas** are allocated according to each supplier's share of imports during the preceding /base/ period.
- **Tariff quotas** are a set of restrictions on the number of products that may be imported or exported at a reduced tariff rate for a set period.
- **Seasonal quotas** are established for the importation of specific types of agricultural products (fruits, vegetables, etc.) during the peak production season in the nation.

3.6.2.3 Licensing

It is a conventional non-tariff regulation mechanism that allows for permissive foreign trade activities with a product or country. It is a self-contained regulatory device. It's a system for allocating quotas among providers. There are three types of licenses: single, universal, and automated.

- **Individual license** is a one-time authorization that allows a specific importer to import a certain number of products from a specific nation.
- A **general license** permits anybody to import an unlimited amount of items from any nation or from a list of countries for an extended length of time.
- **Automated Licence** is a more libertarian and durable regulation. The importer will be required to apply for a state license. Licenses are not necessarily granted by the state, but it does have the authority to cancel them. Automatic licensing is used for a variety of purposes, including keeping track of supply and enforcing international treaties.

3.6.2.4 Tax instruments

This form of instrument has a tangential impact on international trade. The term "equalizing" or "boundary" has been used to them. If foreign goods are not subject to the

same taxes and levies as domestic items, domestic goods will be less competitive. First and foremost, it concerns the value-added tax (VAT) and excises.

3.6.2.5 Technical barriers

Many commodities are recognized to be hazardous to human life and health, as well as animal and plant welfare and the environment. Each country has the right to adopt preventative measures against the possible hazards connected with such items, as well as to create technical standards for imported products.

Technological barriers include standards, technical norms and guidelines, and product safety criteria. Import prohibitions on things that do not meet certain technical requirements are the most common technical barriers.

3.7. EU and Bangladesh Cooperation Agreement

According to the Official Journal of the European Communities (2001), the European Community and the People's Republic of Bangladesh signed a formal partnership and development cooperation agreement in 2001 which marked a turning point in Bangladesh's economic development.

3.7.1. Development cooperation

The Parties acknowledge that an expanded Community contribution to Bangladesh's development efforts, both in terms of scale and impact, is possible, notably in the crucial sectors of poverty alleviation. Cooperation between the Parties shall involve in particular the following:

- AIDS prevention, surveillance, and reduction through information and educational efforts.
- Strengthening health-care services and treatment capacities for AIDS sufferers.
- Drug addicts' training, education, health promotion, and rehabilitation, including efforts to reintegrate addicts into the workforce and social environment.
- The transmission of all essential data while ensuring that personal data is adequately protected.

3.7.2. Trade and commercial cooperation

The goal of this type of collaboration is to expand and diversify two-way commerce by finding ways to increase market access. The Parties will aim to strengthen trade cooperation by doing the following:

- To work toward the removal of trade obstacles and the implementation of transparency measures, particularly via the prompt removal of non-tariff barriers, by WTO and other international bodies' efforts in this area.
- Increase collaboration in customs issues between the different authorities, within their respective responsibilities, particularly in professional training, the simplification and harmonization of customs processes, and the prevention, investigation, and punishment of customs violations.
- To continue to look into transit and re-export issues.
- To share information on mutually advantageous market prospects, statistical collaboration, and competitive issues.

Bangladesh acknowledges that it would take all necessary steps to strengthen the environment for appropriate and effective intellectual, industrial, and commercial property rights protection and enforcement. The Parties agree to cooperate to strengthen information sharing and access to their respective public procurement markets based on reciprocity, within the scope of their respective competencies. For this purpose, the Community wants Bangladesh to join the World Trade Organization's Plurilateral Agreement on Public Procurement.

3.7.3. Economic cooperation

According to their different policies and goals, and to the extent that their resources allow, the Parties agree to promote economic cooperation for mutual benefit. They will mutually decide on the areas and priorities for economic cooperation programs and activities in the context of a specified cooperation strategy, to their mutual advantage and within their respective capacities. The parties have committed to collaborate in the areas below:

- Facilitating interactions between economic operators, as well as other steps to encourage commercial exchanges and investments.
- Promoting information sharing on enterprise and small and medium-sized enterprise (SMEs) policies, particularly to strengthen the business and investment climate and

foster tighter linkages between SMEs to boost trade and expand industrial cooperation prospects.

- Improving management training in Bangladesh to generate business operators who can successfully deal with the European business environment.
- Encouraging Bangladesh and the Community to engage in conversation on energy policy and technology transfer.

The Parties agree to encourage more mutually beneficial investment by improving the climate for private investment through improved capital transfer conditions and, where appropriate, supporting the conclusion of conventions on the promotion and protection of investments between the Community Member States and Bangladesh, within their respective jurisdictions.

3.7.4. Regional cooperation

The Parties agree that cooperation between them can include measures done under cooperation agreements with other nations in the same region, as long as they are consistent with the terms of this Agreement. The parties undertake to provide special attention to the following activities:

- Technological assistance
- Increasing intra-regional commerce
- Support for regional institutions, as well as cooperation projects and efforts spearheaded by regional organizations.

3.7.5. Environmental cooperation

Recognizing the relationship between social hardship and environmental deterioration, the Parties agree to work together in the environmental area to improve possibilities for long-term economic and social development, with a strong emphasis on environmental protection. Specific attention will be paid to:

- Decreasing environmental hazards in disaster-prone locations and providing greater protection against such risks, as well as combating soil deterioration.
- Creating an efficient environmental policy and putting in place the necessary legal measures and resources to put it in place. This will include training, capacity building, and the transfer of essential environmental technology.

- Working together to create nonpolluting and sustainable energy sources, as well as solutions to urban and industrial pollution. Avoiding actions that harm the environment (particularly in places with a vulnerable ecosystem), while promoting tourism as a long-term economic source.
- Environmental impact assessment, as a necessary component of all reconstruction and development projects, at both the planning and execution stages.

3.7.6. Human resource development cooperation

Human resource development is an essential component of both economic and social development. The Parties recognize the importance of protecting workers' basic rights by adhering to the principles outlined in relevant International Labour Organization instruments, such as those relating to the prohibition of forced and child labour, freedom of association, the right to organise and bargain collectively, and non-discrimination.

The Parties acknowledge that improving the living conditions of the poorest members of society, particularly women, will help to create a more favourable economic and social climate.

3.8. History of EU/EC-Bangladesh Economic Relations

Bangladesh has a long history of friendship and cooperation with the European Community and Union. Bangladesh has maintained a close relationship with the EU since its diplomatic contacts with the EU were established in 1973. The EU-Bangladesh four Country Strategy Papers were released in 1993, 1999, 2002, and 2007(Rahman M, 2011). The following is a timeline of collaboration:

Table 1: History of EU- Bangladesh relationship

1973	Bangladesh and EC have established a diplomatic relationship.
1976	The "Commercial Co-operation Agreement" was signed.
1980	The EC-Bangladesh Trade and Jute Products Agreement was signed
1982	European Commission opened its office in Dhaka.
1986	A textile agreement was signed by Bangladesh and the European Commission.
1988	EC-Bangladesh Science and Technology Cooperation Agreement was signed
1993	EC and Bangladesh released their 1st Country Strategy Paper.
1998	Bangladesh received €58 million in food help from the EU for severe flooding
1999	EC and Bangladesh released their 2nd Country Strategy Paper
2001	The Cooperation Agreement between the EU and Bangladesh was signed.
2002	EC expanded its development strategy (human, social, and economic)
2007	Due to Cyclone Sidr swept the European Commission provided €8.5 million.
2011	The European Union established development partnerships with Bangladesh.
2015	In response to the Rana Plaza disaster agreement Sustainability Compact
2017	EU agreed to provide a preferential trade program for Bangladesh under GSP
2020	EU and Germany provided €33 million to support export-oriented industries workers in the Covid-19 pandemic.

Source: Own elaboration based on data from European Commission, and Bangladesh Bank.

According to European Commission (2020), Bangladesh received €655 million between 2014 and 2020 from the EU and Germany. EU development aid, with three key priorities: human capital development, food security, nutrition, and sustainable development, as well as democratic governance. Some of the topics explored include forced migration, gender equality, and climate change mitigation. In addition, the EU has around €150 million set aside for humanitarian aid and catastrophe readiness and response.

3.9. The major Development Partners (DPs) of Bangladesh

There are several wings or organisations in Europe which are working for Bangladesh‘s economic development are as follows:

3.9.1. European Union (EU)

European Union (EU) is one of the largest development partners of Bangladesh. This organization provides around € 70-80 million per year in development aid to the Government of Bangladesh (ERD, 2016). Bangladesh receives all EU aid in the form of grants and main focuses on three core sectors:

- Democratization and Human Rights
- Food Security and Nutrition
- Education and Skill Development.

3.9.2. Swiss Agency for Development and Cooperation (SDC)

The Swiss Agency for Development and Cooperation (SDC) manages the Swiss Government's support for Bangladesh as part of its Five Year Cooperation Strategy. Bangladesh's current cooperation policy focuses on markets and the private sector, local governance, skill development, climate change adaptation, and gender equity.

3.9.3. The Netherlands

Bangladesh has received development assistance from the Royal Netherlands since its independence. Grants and technical assistance are used to offer aid. In providing financial support, the Government of the Kingdom of the Netherlands is now prioritizing the development and effective administration of Bangladesh's water resources sector. Netherlands-based ORIO Authority donated 1.36 million euros to the project's Development Phase, entitled "Rehabilitation of Water Management Infrastructure, Bhola" (ERD, 2016).

3.9.4. The Federal Republic of Germany

The Federal Republic of Germany has been providing development aid to Bangladesh since 1972. The majority of Germany's assistance is in the form of grants. Renewable Energy and Energy Efficiency, Rule of Law/Justice/Good Governance, and Climate Change Adaptation to Urban Areas are now the key areas of German support. The German government provides financial and technical aid to Bangladesh through two German agencies, KfW and GIZ.

3.9.5. Newly emerged or Other European Development Partners

Three new development banks (DPs) have recently been founded to give financial assistance in sectors such as power, transportation, and water supply through the granting of loans. These are the following:

- **European Investment Bank (EIB):** In November 2013, Bangladesh and the European Investment Bank (EIB) signed a credit agreement to fund the "Power System Expansion and Efficiency Improvement Investment Program (ERD, 2016).
- **Agency Francaise De Development (AFD**): AFD is a French state-owned development finance institution as well as a bilateral organization. It began operations in Bangladesh in 2012.
- **The Global Alliance for Improved Nutrition (GAIN):** It is a non-profit organization committed to bettering global nutrition. GAIN's mission in Bangladesh is to lessen the impact of malnutrition by promoting community access to low-cost nutrition goods through market-based initiatives.

Other European development partners mostly give financial assistance in the form of loans, mixed and state credit with favourable conditions, and supplier credit. Italy, Spain, and Czechoslovakia are included in this group. These nations had formerly provided bilateral development aid but no longer do

4. Practical Part

The practical part will be covered the Bangladesh economy, factors influencing Bangladesh GDP growth, Bangladesh trade scenario, EU-Bangladesh trade relationships, Balassa RCA index, Bangladesh trade structure changes, and regression analysis.

4.1. Bangladesh Economy

Bangladesh is a South Asian country bordered by India and Myanmar in the eastern section of the Bengal region. Dhaka is the capital of Bangladesh and the largest city. It is the core of the Ready-Made Garment (RMG) industry. Chittagong, the country's largest seaport, is the focus of RMG exports.

Bangladesh has a long history of economic progress and poverty alleviation. Over the last decades, it has been one of the fastest economic growth in the world. This success has been supported by a demographic dividend, high ready-made garment (RMG) exports, and stable macroeconomic conditions (World Bank,2022).

Table-2 shows the overall economic picture for Bangladesh from 2016 to 2020. The reason behind choosing this period is to present the most recent economic scenario in Bangladesh. According to overall economic indicators, Bangladesh has been undergoing economic improvement in recent years, and Bangladesh would be able to achieve economic stability.

Table 2: Overal scenario of Bangladesh Economy

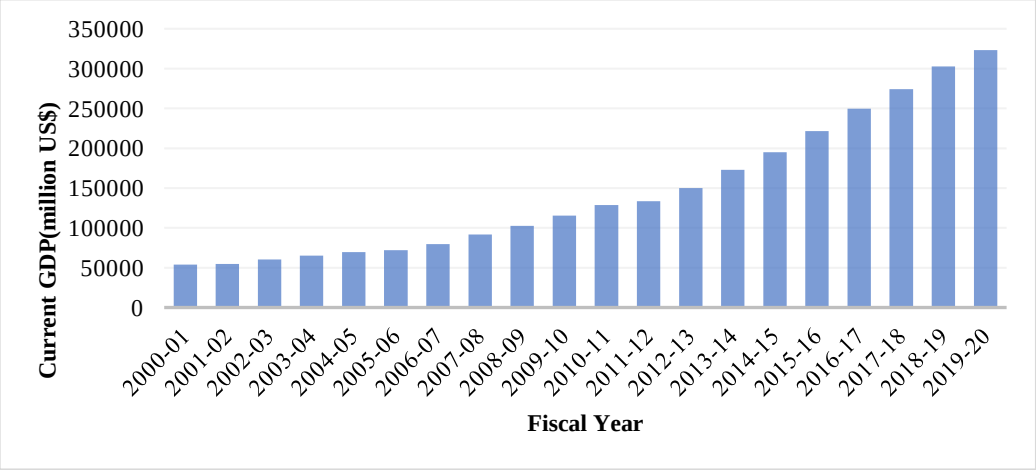
Main Indicators	Unit	2015-16	2016-17	2017-18	2018-19	2019-20
Population	Millions of inhabitants	158	160	161	163	165
GDP	Million US$	221 415	249 710	274 039	302 571	323 057
GDP per capita	US$	1322	1403	1498	1603	1625
Real GDP growth	%	7.11	7.28	7.86	8.15	3.51
Inflation rate	%	5.51	5.7	5.54	5.59	5.69
Unemployment rate	%	4.35	4.37	4.41	4.44	5.41
Exchange rate	1 US$ to BDT	78.5	80.4	83.5	84.4	84.8
Foreign Exchange Reserve	Million US$	30 176	33 493	32 943	32 717	36 037
Current account balance	% of GDP	1.9	-0.5	-3.5	-1.7	-1.5

Source: Own elaboration based on data from World Bank and Bangladesh Bank

4.1.1. Bangladesh GDP

Bangladesh's GDP is on an upward trend and growing rapidly. According to the World Bank, Bangladesh's GDP has increased by six times since 2001. Bangladesh's GDP grew from 53991 million USD in 2001 to 323056 million USD in 2020 as seen in the graph below. It is a positive indicator for Bangladesh's economy, and the country has the potential to become a high-income country.

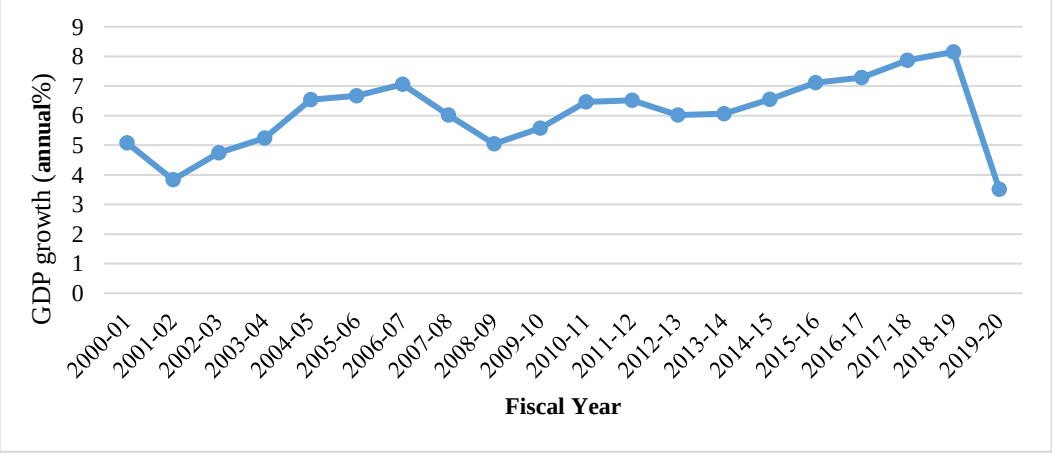
Figure 1: Bangladesh GDP(current)



Source: Own elaboration based on data from World Bank

Bangladesh's GDP growth is volatile and the fracture trend from 2002 to 2007 was an upward trend but dramatically fall in 2009. After 2009 it was increased until 2019 to 8.2% which was the highest in Bangladesh's GDP growth but in 2020 it was falling 3.2% due to the Covid-19 pandemic.

Figure 2: Bangladesh GDP growth rate

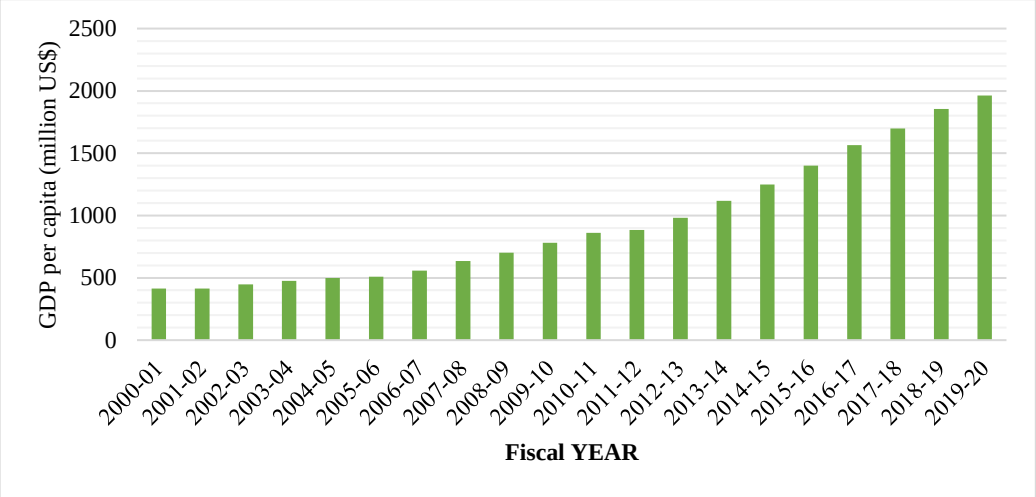


Source: Own elaboration based on data from World Bank

4.1.2. Per capita Income

Bangladesh's GDP per capita has been increasing since 2001 According to Figure 4, Bangladesh's per capita GDP was 415 USD in 2001 and would have been 1960 USD in 2020. It's a positive indication for Bangladesh's economy, and the country can develop into a strong country.

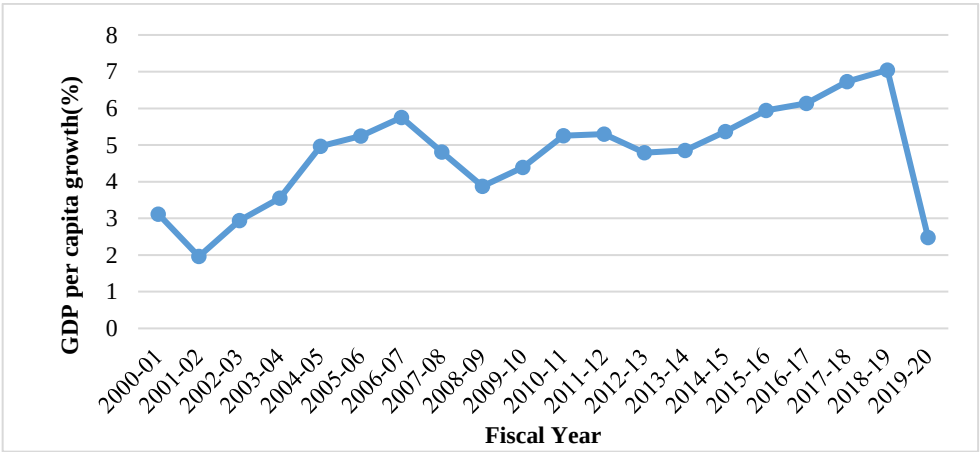
Figure 3: Bangladesh per capita GDP (Current)



Source: Own elaboration based on data from World Bank.

Figure 4 shows that Bangladesh's GDP per capita growth rate has a fragmented tendency, with an increasing trend from 2002 to 2007, then a sharp drop in 2009. After 2009, it rose to 7.04 percent which is the greatest rate of growth for Bangladesh since 2001 but in 2020 it was falling down 2.5% due to the Covid-19 pandemic.

Figure 4: GDP Per capita growth (annual %)

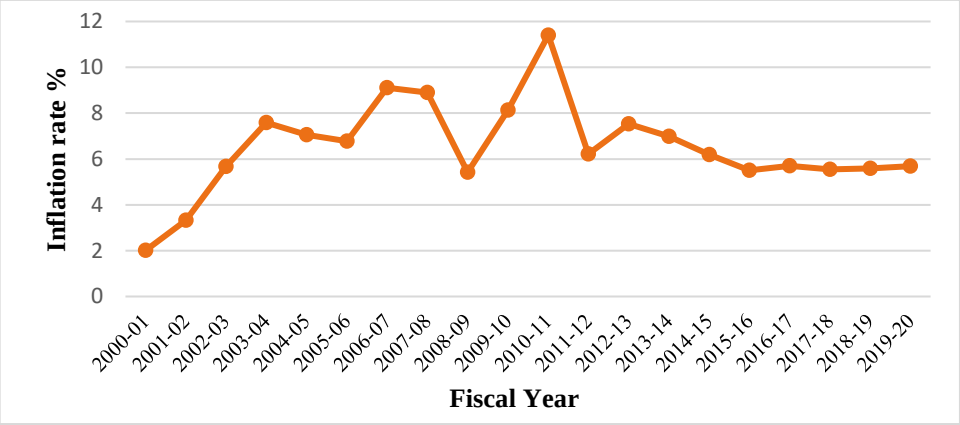


Source: Own elaboration based on data from World Bank

4.1.3. Inflation rate of Bangladesh

Bangladesh's inflation rate has been substantially more volatile and unpredictable between 2001 and 2020. Although the rate of inflation has decreased since 2013, it remains high, which is not a healthy indicator for a country. Inflation rates were high in 2010 and 2011 as a result of political instability and the government's inability to control the market.

Figure 5: Bangladesh Inflation rate (%)

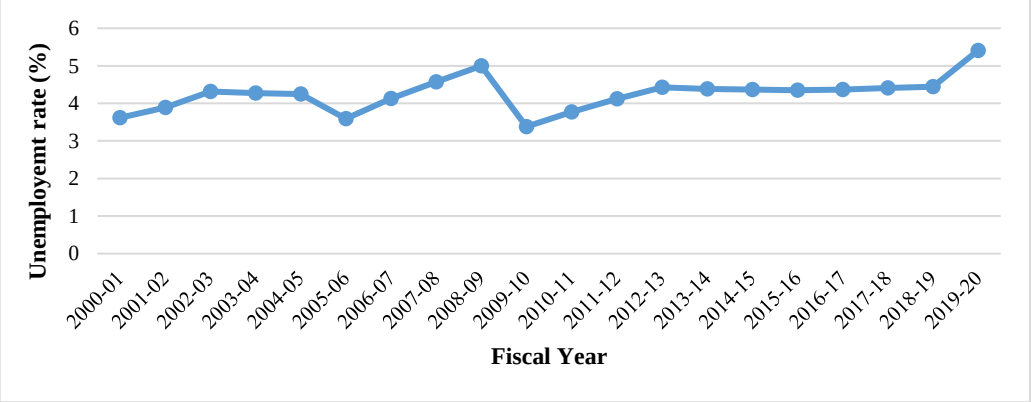


Source: Own elaboration based on data from Bangladesh Bank.

4.1.4. Unemployment in Bangladesh

Unemployment in Bangladesh is fluctuating, which may not appear to be a good indicator at first look. Although Bangladesh's unemployment rate is moderate, it may not accurately represent those who are employed or the quality of life of those who are not. Due to the economic crisis and covid pandemic, unemployment was high in 2009 and 2020, respectively.

Figure 6: Bangladesh Unemployment rate(%)

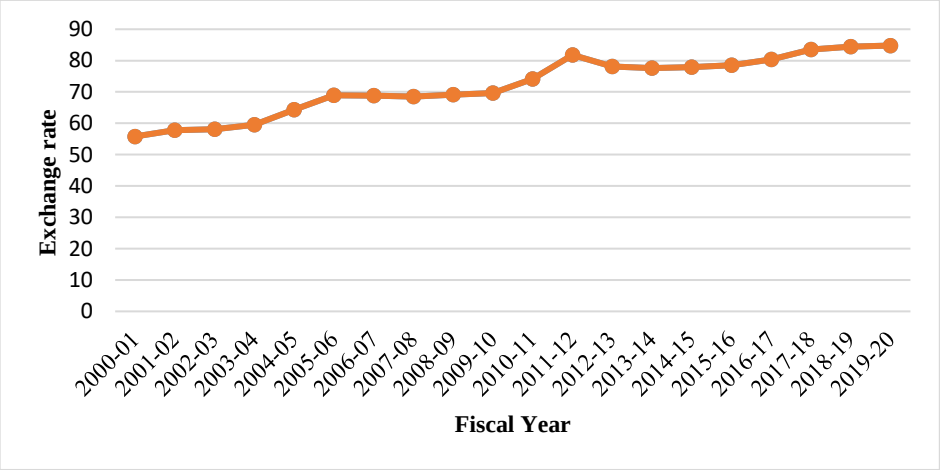


Source: Own elaboration based on data from Bangladesh Bank.

4.1.5. Exchange rate of Bangladesh

Bangladesh's currency is on upward trend. In comparison to FY 2000-01 and 2019-20, the exchange rate changed from 55.8 to 84.4 respectively The weighted average of BDT-Dollar exchange rates from FY 2000-01 to FY 2019-20 has is shown following Figure. As Bangladesh's exchange rates increase the currency BDT value declines against the US dollar. One of the main contributors to an increase in the exchange rate is expanding imports.

Figure 7: Bangladesh Exchange rate (1 USD to BDT)



Source: Bangladesh Bank, 2021.

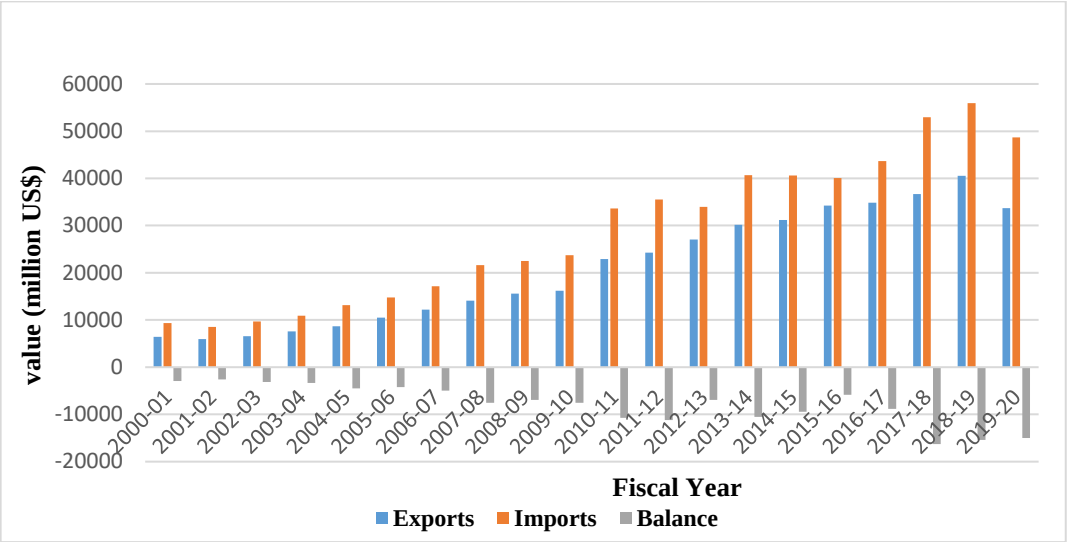
4.2. Macroeconomic indicators that influence Bangladesh's economic growth:

Many macroeconomic indicators that influence Bangladesh's growth will discuss in part by part below.

4.2.1. Net export of Bangladesh

Foreign trade has had a substantial impact on Bangladesh's economic progress from 2001 to the present. Bangladesh has a positive trade balance with the EU, even though its overall trade balance is negative. The trade balance indicates a country's overall position on the global market. If a country's trade balance is positive, it means that exports more than imports. Bangladesh's net exports to the EU are positive due to higher export of textile and clothing. The trend of Bangladesh's balance of trade is as follows-

Figure 8: Bangladesh Trade Balance

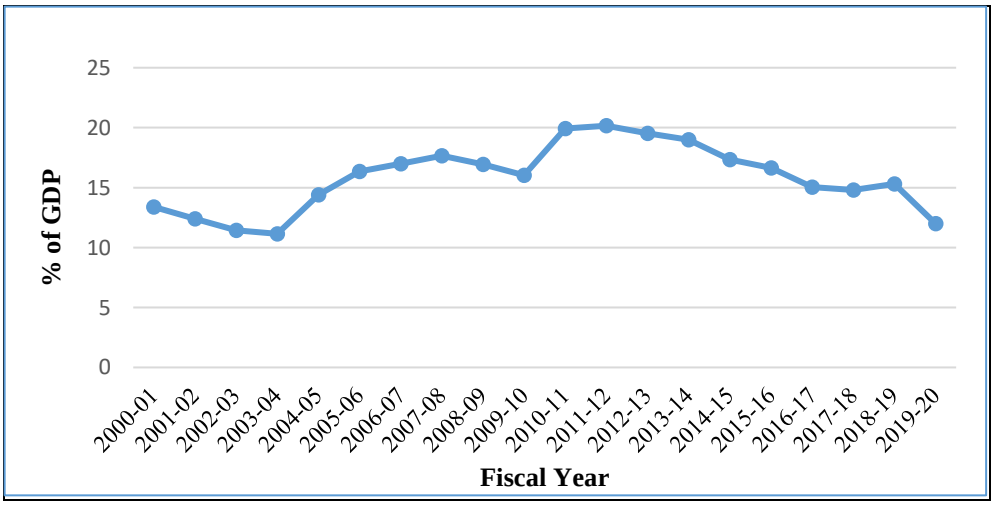


Source: Own elaboration based on data from Bangladesh Export Promotion Burau

4.2.1.1. Contribution of export goods and services to Bangladesh GDP

Bangladesh's exports account for around 11% of GDP. Export contributes significantly to the improvement of the balance of payments and GDP growth. Export accounted for more than 10% of GDP from 2001 to 2020, although it peaked at over 20% of GDP in the 2010-11 fiscal year. Due to the covid pandemic-19, the export ration in 2020 will be smaller than the previous year. Increased exports have a favourable influence on both GDP and per capita income.

Figure 9: Contribution of export on Bangladesh GDP

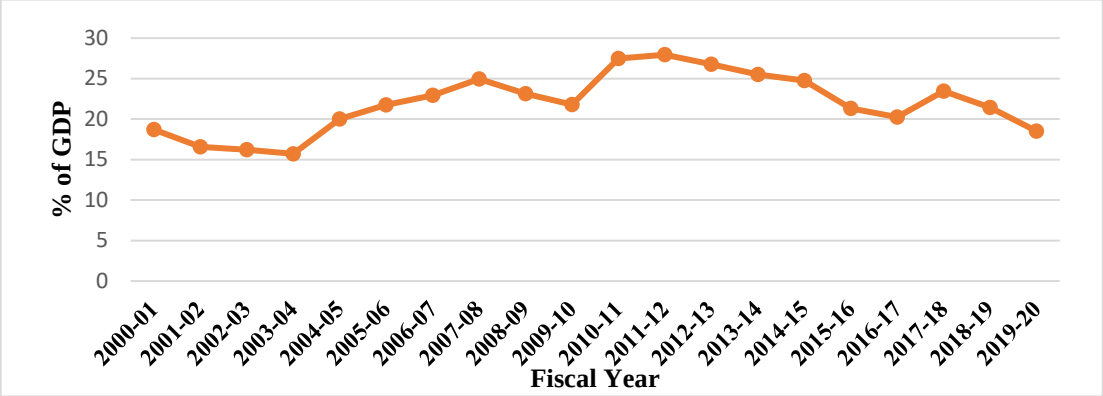


Source: Own elaboration based on data from World Bank

4.2.1.2. Contribution of Import goods and services on Bangladesh GDP:

Imports are a big part of Bangladesh's GDP because it's such a populous country. Bangladesh spends around 15% of its GDP on imports. Bangladesh's import payment pattern over the previous 20 years has been nearly upward, with the largest proportion from 2011 to 2014.

Figure 10: The percentage of import goods and services on GDP

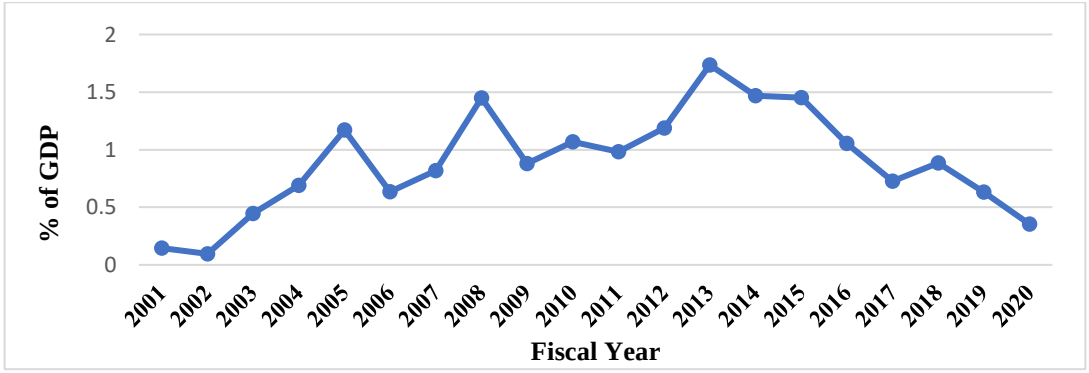


Source: Own elaboration based on data from World Bank

4.2.2. Forein Direct Investment in Bangladesh:

Inflows of foreign direct investment (FDI) are critical to Bangladesh's trade development and GDP growth. The trend of net FDI inflows has been usually fluctuating throughout the preceding 20 years. It grew in an up-and-down pattern from 2001 to 2013. The parentage was 1.7 in 2013, and it continued to fall the next year till 2020, having so significant impact on Bangladesh's economy.

Figure 11: Net inflows of FDI in Bangladesh (% of GDP)

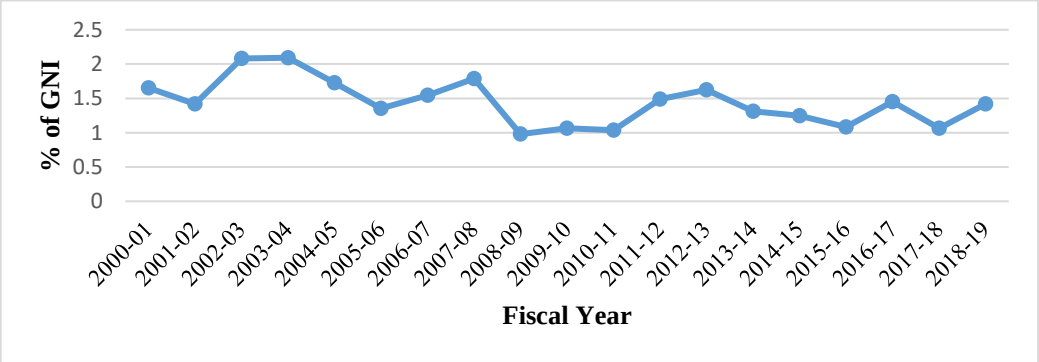


Source: Own elaboration based on data from World Bank.

4.2.3. Forein Development Assistance in Bangladesh:

Bangladesh gets significant international assistance to improve its economic infrastructure, education, and health care. The European Union and European nations provide the majority of foreign aid. Net foreign aid has a large impact on the Gross National Income, according to the data (GNI). From 2001 to 2020, the influence of foreign aid on GNI has been on the decline with the exception of 2003, 2004, and 2008.

Figure 12: Net offical Development assistance (ODA) received (% of GNI)

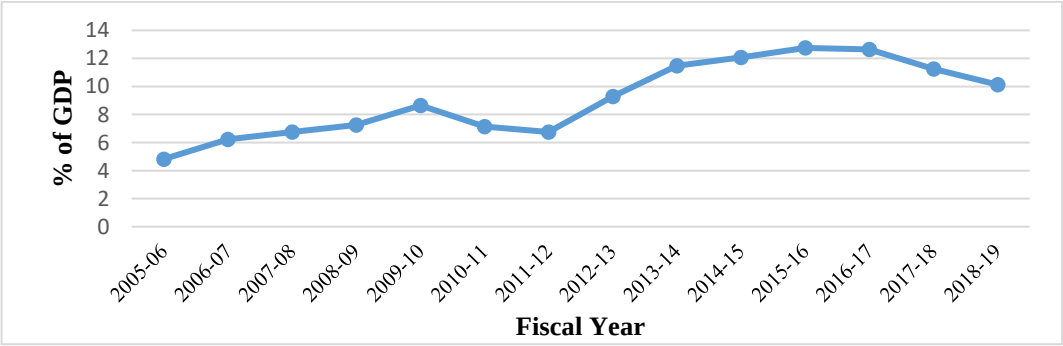


Source: Own elaboration based on data from World Bank

4.2.4. Forein Exchange Reserve of Bangladesh:

Foreign exchange reserves are a critical component of international trade development since transactions are undertaken in foreign currencies such as the US dollar and the Euro. Bangladesh's foreign currency reserve, as well as its contribution to GDP, has risen from 2001 to 2020. Since 2012, the contribution of the foreign exchange reserve to GDP has increased, which is encouraging for Bangladesh's international trade and investment.

Figure 13:Foreign Exchange Reserve (% of GDP



Source: Own elaboration based on data from CEIC.

4.3. International trade in Bangladesh:

In the fiscal year 2019-2020, export earnings were US$ 33674.09 million, whereas import payments were US$ 48699.8 million, indicating that export earnings covered 69.15 per cent of our import bill. Export revenues covered 72.44 per cent of the import bill in fiscal years 2018-2019 and 2017-2018, respectively.(Export Promotion Burew, 2021)

For the fiscal years 2000-01 through 2019-20, the following is a statement of export as a proportion of imports:

Table 3: Bangladesh Overal Trade (in million USD)

Year	Exports	Imports	Balance	Export as a percentage to import
2000-01	6 467	9 363	-2 896	69.07
2001-02	5 986	8 540	-2 554	70.09
2002-03	6 548	9 658	-3 110	67.80
2003-04	7 603	10 903	-3 300	69.73
2004-05	8 655	13 147	-4 492	65.83
2005-06	10 526	14 746	-4 220	71
2006-07	12 178	17 157	-4 979	70.98
2007-08	14 110	21 629	-7 519	65.24
2008-09	15 565	22 507	-6 942	69.16
2009-10	16 204	23 738	-7 533	68.26
2010-11	22 928	33 657	-10 729	68.12
2011-12	24 301	35 516	-11 214	68.42
2012-13	27 027	33 969	-6 941	79.56
2013-14	30 186	40 692	-10 506	74.18
2014-15	31 208	40 638	-9 429	76.80
2015-16	34 257	40 097	-5 840	85.43
2016-17	34 846	43 663	-8 816	79.81
2017-18	36 668	52 953	-16 284	69.72
2018-19	40 535	55 956	-15 421	72.44
2019-20	33 674	48 699	-15 025	69.15

Source: Own elaboration based on data from Bangladesh Export Promotion Burau.

4.3.1. Export (Goods) by Country:

During FY 2020-2021, the United States was Bangladesh's largest importing country, with goods worth US$ 6974.01 million. Germany and the United Kingdom were ranked second and third, respectively. In order of importance, Bangladesh's other significant export destinations were France, Spain, Italy, the Netherlands, Canada, Belgium, India, Sweden,

Turkey, Japan, and Hong Kong. In terms of importing goods from Bangladesh, the United States and Germany ranked first and second, respectively. In FY 2020-21, export earnings to the United States and Germany were US$ 6,278.95 million and US$ 5430.1 million which were 17.8% and 15.4% of the country's total export earnings.

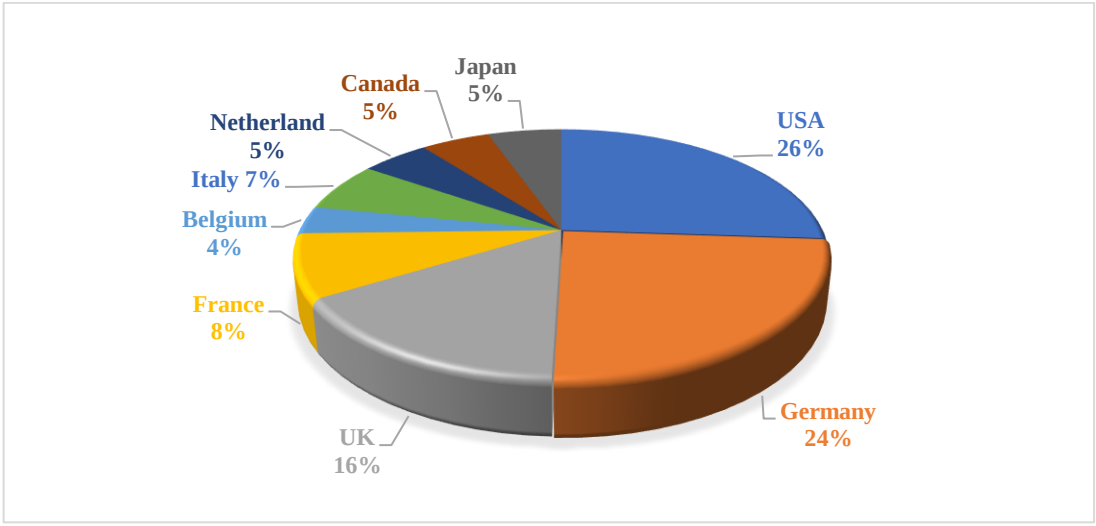
Table 4: Export Earnings from main countries (Million US$)

Country	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
USA	5419.6	5583.6	5783.4	6220.7	5846.6	5983.3	4593.7	5832.4
Germany	3962.6	4720.5	4705.4	4988.1	5475.7	5890.7	4299.6	5099.2
UK	2764.9	2917.7	3205.5	4017.6	3569.3	3989.1	2775.8	3453.9
France	1513.9	1677.7	1743.5	1852.2	1892.6	2004.97	1472.4	1703.6
Belgium	730.8	970.5	975.1	1015.3	918.9	877.9	633.9	723.4
Italy	1036.60	1332.38	1382.35	1385.67	1462.95	1559.92	1138.6	1282.8
Netherland	712.47	858.13	840.34	845.92	1045.69	1205.37	873.4	1098.7
Canada	1090.02	1099.63	1029.13	1112.88	1079.19	1118.72	885.4	1000.5
Japan	750.26	862.07	915.22	1079.55	1012.98	1131.9	947.3	1200.8
Total	17981.15	20022.21	20579.94	22517.92	22303.9	23761.88	17620.1	21395.3

Source: Export Promotion Bureau (EPB), Ministry of Commerce, 2021.

The United Kingdom (9.8%) and France (9.8%) were the other significant destinations for our exports (5.0 per cent). It can be represented pie chart from the above date as below:

Figure 14: Bangladesh export earning from main countries (Average 2012-2020)



Source: Own elaboration based on data from Bangladesh Export Promotion Burau,2020.

4.3.1.1. Export Receipts by bloc/group/Community

The EU member states led the list of buyers, accounting for USD 5470 million (58.7%) of total export earnig in the year 2020 under review, compared to USD 17346 million (59.2%) in the year 2019.

Members of the North American Free Trade Agreement (NAFTA) were the second largest importers of Bangladeshi goods. In 2018, NAFTA contributed 18.6% of total exports, down from 19.2% in 2018-2019.

The table below shows the relative positions of export income from countries classified as a block/group/economic community in 2019-2020 and 2018-2019, as well as their percentage in Bangladesh's total export receipts.

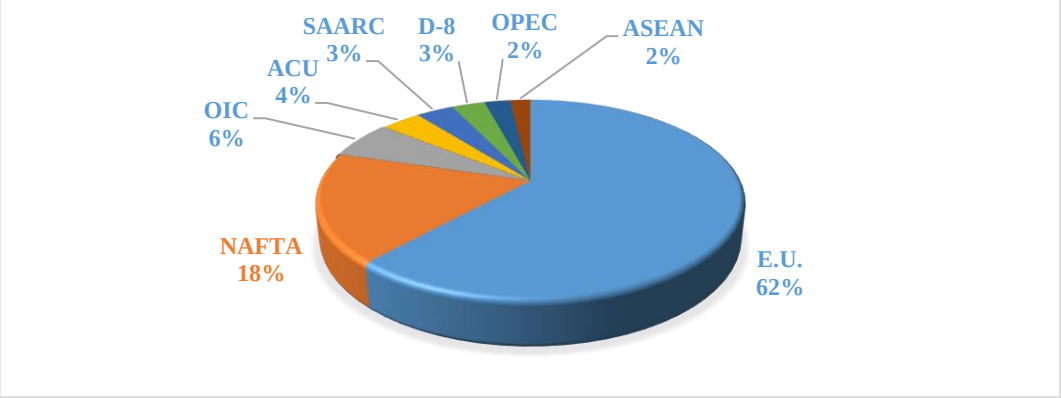
Table 5: Export Receipts by bloc/group/Community (Million US$)

Block/Group	E.U.	NAFTA	OIC	ACU	SAARC	D-8	OPEC	ASEAN
2014-15	13699	4926	1498	884	645	582	525	383
2015-16	13988	4982	1533	861	806	747	607	398
2016-17	14513	4723	1599	754	709	872	586	439
2017-18	15975	4875	1541	880	832	797	596	463
2018-19	17346	1859	1400	956	1064	704	578	522
2019-20	15470	4907	1435	1001	994	744	571	492
Total	**90991**	**26272**	**9006**	**5336**	**5050**	**4446**	**3463**	**2697**

Source: Export Promotion Bureau, 2021.

Block or group-wise export receive from 2014 to 2020 is shown in the pie chart below-

Figure 15: Export Receipts by bloc/group/Community (Aaverage 2014-2020)



Source: Own elaboration based on data from Bangladesh Export Promotion Burau.

4.3.2. Import payments to main countries

In terms of the overall value of imported commodities, China was the most popular destination for Bangladeshis. From January through February in the fiscal year 2020-21, China provided 25.91% of all imported commodities. The second-largest importer, India 16.03% was followed by Japan at 3.89%. The import payments are shown in the following Table per country.

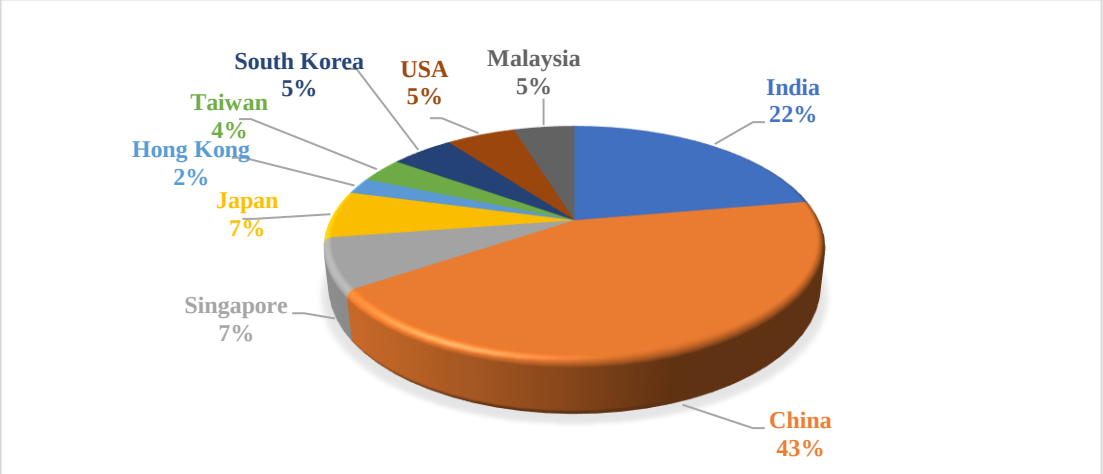
Table 6: Import payments to main countries (Million US$)

Country	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
India	5 985	5 588	5 722	6 336	8 941	8 242	6 663	47 477
China	7 550	11 268	12 582	13 292	15937	17 265	14 360	92 254
Singapore	2 407	2 894	1 203	2 113	2 255	2 274	1 883	15 029
Japan	1 291	1 816	2 075	2 031	2 422	2 254	2 092	13 981
Hong Kong	762	881	827	726	676	614	382	4 868
Taiwan	897	1 060	1 004	990	1129	11 75	1 084	7 339
South Korea	1 182	1 417	1 417	1 483	1 907	1 618	1 525	10 549
USA	792	880	1 134	1 358	2 160	2 370	2 839	11 533
Malaysia	2 084	1 361	1 184	1 040	1 342	1 520	1 623	10 154

Source: Bangladesh Bank 2021,(Excluding EPZ).

According to the pie chart, Bangladesh relies on China and India for the majority of its imports, with 43% and 22% respectively.

Figure 16: Import payments to major countries (average for 2013-2020)



Source: Own elaboration based on data from Bangladesh Bank

4.3.2.1. Import Payments classified by Bloc/Group/Community:

By block, the highest is OIC, followed by SAARC, from which Bangladesh import the most. Bangladesh paid 9682 million USD to the OIC countries and 6811 million USD to the SAARC countries for imports commodities in fiscal year 2019-20.

Table 7: Import Payments classified by Bloc/Group/Community

Bloc/Group/Community	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-2014
Other Asian Countries	15 543	18 500	16 748	15 547	14 744	13 650	12648
Organization of Islamic Conference (OIC)	9 683	10 392	8 467	6 764	6 081	8 070	8 399
SAARC	6 811	8 187	9 464	6 731	6 367	6 426	6 777
Asian Clearing Union (ACU)	6 567	8 481	9 284	6 725	6 042	6 395	6 679
ASEAN	6 453	8 398	7 971	5 910	5 247	6 357	7 094
Developing Eight (D-8)	4 555	4 381	4 067	2 935	2 928	3 379	3 952
OPEC	3 895	4 308	2 843	2 833	2 622	2 873	3 074
European Union (EU)	3 136	3 852	3 638	2 293	1 993	2 426	237
NAFTA	3 092	2 387	2 233	1 753	1 740	1 462	1 427
Other European Countries	2 019	1 697	1 713	1 555	1 186	918	1 131
Total Import excluding EPZ.	45 559	52 391	49 383	40 565	36 978	37 557	37 756

Source: Bangladesh Economic Review, 2021(Excluding EPZ)

4.3.3. Top trading partners of Bangladesh

According to data from the European Commission, Bangladesh's top trading partner in 2020 was the EU-27. Separately in the first and third positions for export and import.

Table 8: Top trading partners of Bangladesh in 2020

Imports			**Exports**			**Total trade**		
Partner	Value Mio €	% World	Partner	Value Mio €	% World	Partner	Value Mio €	% World
World	40,149	100.0	World	26,918	100.0	World	67,067	100.0
China	9,510	23.7	**EU27**	**11,013**	**40.9**	**EU27**	**13,054**	**19.5**
India	5,506	13.7	USA	3,547	13.2	China	9,900	14.8
EU27	**2,041**	**5.1**	UK	2,249	8.4	India	6,245	9.3
USA	1,813	4.5	India	738	2.7	USA	5,361	8.0
Japan	1,563	3.9	Canada	641	2.4	UK	2,513	3.7
Indonesia	1,495	3.7	Japan	630	2.3	Japan	2,194	3.3
Singapore	1,467	3.7	Australia	556	2.1	Singapore	1,544	2.3
Brazil	1,366	3.4	China	390	1.5	Indonesia	1,537	2.3
Malaysia	1,077	2.7	Russia	387	1.4	Canada	1,488	2.2
Qatar	923	2.3	Turkey	378	1.4	Brazil	1,452	2.2

Source: European Commission, 2021.

4.4. Analysis of Bangladesh foreign trade with the EU

The European Union (EU) is the most important trading partner of Bangladesh which accounts for over 58 per cent of the country's total commodities turnover. Fortunately, there has been a favourable balance along the trade front of economic cooperation between the EU and Bangladesh. Bangladesh has always been a part of the EU's GSP system. Bangladesh has always had duty-free and quota-free access to the EU market as a result of this arrangement.

However, after 2004, Bangladesh's exports are anticipated to face a significant challenge, as its competitors may be able to successfully lower Bangladesh's current market share in the EU and the United States, which account for over 90% of its readymade garment exports. Unless Bangladesh takes proper measures to address this challenge, the impact on the economy as a whole would be negative.

The Generalised Scheme of Preferences (GSP) is a European Union special initiative aimed at assisting underdeveloped and least developed nations by removing tariff barriers to export to European Union member countries. Furthermore, it is also known as the removal of tariffs on items entering the EU market from vulnerable developing nations. This aids developing nations in alleviating poverty and creating jobs while adhering to international standards such as labor and human rights.

The three distinct arrangements in the Generalized Scheme of Preferences are Standard GSP, GSP+, and Everything But Arms (EBA). Under the covered agreements, LDCs are guaranteed duty-free and quota-free access to all imported products on the EU market. It is important to remember that signing a Free Trade Agreement (FTA) with the EU does not imply that the country loses its EBA membership.

Bangladesh is the EU's top GSP partner among least developed and developing nations, including India, Indonesia, Vietnam, and Pakistan, and Bangladesh benefits from significant import advantages (European Commission, 2020). The value of the EU GSP imports from key beneficiaries (in millions of euros), as well as their share of total imports in the EU GSP imports in 2018, are displayed in the table below.

Table 9: EU GSP imports from important beneficiaries in 2018

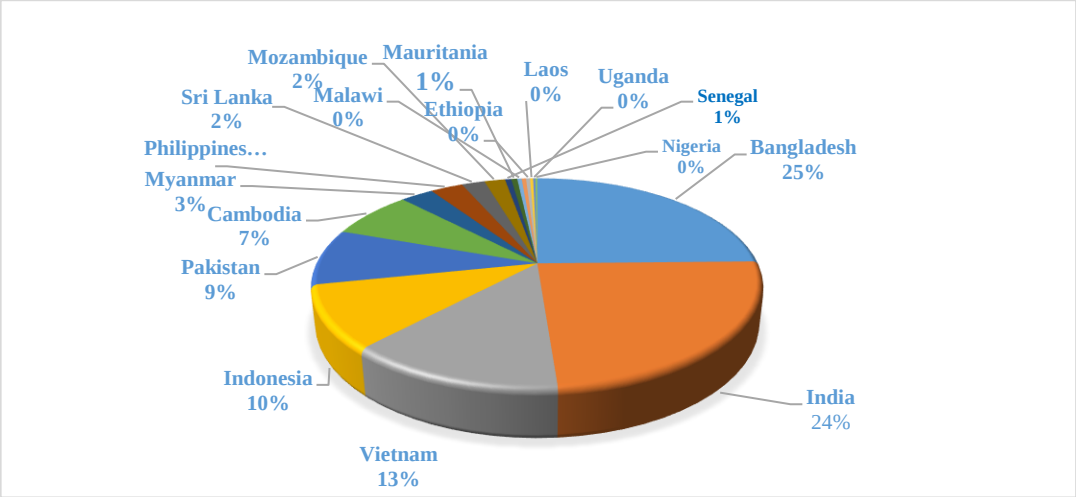
GSP Beneficiary Country	Imports under GSP (€ M)	Overall imports to EU (€M)	Share of Country's GSP in imports to EU	Share of Country's GSP in total GSP imports to EU	% of imports as a share of total EU M
Bangladesh	16,776	17,401	96.4%	24.4%	0.96%
India	16,378	43,601	37.6%	23.8%	2.41%
Vietnam	8,994	37,531	24.0%	13.1%	2.07%
Indonesia	6,616	15,557	42.5%	9.6%	0.86%
Pakistan	5,885	6,740	87.3%	8.5%	0.37%
Cambodia	4,987	5,255	94.9%	7.2%	0.29%
Myanmar	1,926	2,189	88.0%	2.8%	0.12%
Philippines	1,915	7,490	25.6%	2.8%	0.41%
Sri Lanka	1,365	2,755	49.5%	2.0%	0.15%
Mozambique	1,219	1,840	66.3%	1.8%	0.10%
Senegal	367	543	67.6%	0.5%	0.03%
Mauritania	353	523	67.4%	0.5%	0.03%
Malawi	260	301	86.6%	0.4%	0.02%
Tanzania	256	473	54.2%	0.4%	0.03%
Ethiopia	236	642	36.8%	0.3%	0.04%
Laos	182	251	72.6%	0.3%	0.01%
Uganda	131	471	27.9%	0.2%	0.03%
Nigeria	115	18,715	0.6%	0.2%	1.03%

Source: European Commission, 2020.

Bangladesh had the highest percentage of EBA imports (61.8%), followed by Cambodia (18.4%), and Myanmar (17.4%). In 2018, in terms of overall GSP beneficiaries, Bangladesh exceeded India (€16.8 billion in preferential imports vs. €16.4 billion for India). (Commission européenne, 2020)

The following are the major beneficiaries of the Everything But Arms agreement in 2018 (in millions of Euros):

Figure 17: Major beneficiaries of Everything But Arms arrangement in to export EU, as of 2018



Source: Own elaboration date from European Commission

4.4.1. Trade picture with EU

Table 10: Trade picture with EU

- EU is Bangladesh's most important trade partner of Bangladesh, accounting for almost 58 % of the country's overall trade in 2020.
- Bangladesh was the EU's 35th most important goods trade partner in 2020.
- Bangladeshi Clothing dominates in the EU, accounting for more than 90% of overall imports from Bangladesh.
- Machinery and Transport equipment dominate imports of Bangladesh from the EU around 49%.
- Between 2001 and 2020, Bangladesh‘s export to the EU increased from 1965 million USD to 12780 million USD and imports increased from EU 722.3 million USD to 3136.3 million respectively.
- The export destination pattern revealed that EU member nations topped the purchasers' list, accounting for 17346 USA million dollars (59.2%) of total export revenues in 2019 and 2020, which total 15470 USD million dollars (58.7 per cent).

Source: Own elaboration based on data from, World Bank, Bangladesh Bank, and Bangladesh Economic Review.

4.4.2. Bangladesh Trade Balace with EU

Fortunately, Bangladesh‘s trade balance is positive with the EU whereas overall trade in Bangladesh is negative. From 2001 to 2011 Balance of Payment for Bangladesh was an upward trend which means exports higher than imports after 2011 to 2020 export received from the EU have been decreased and the balance of payment almost straight line but remained positive.

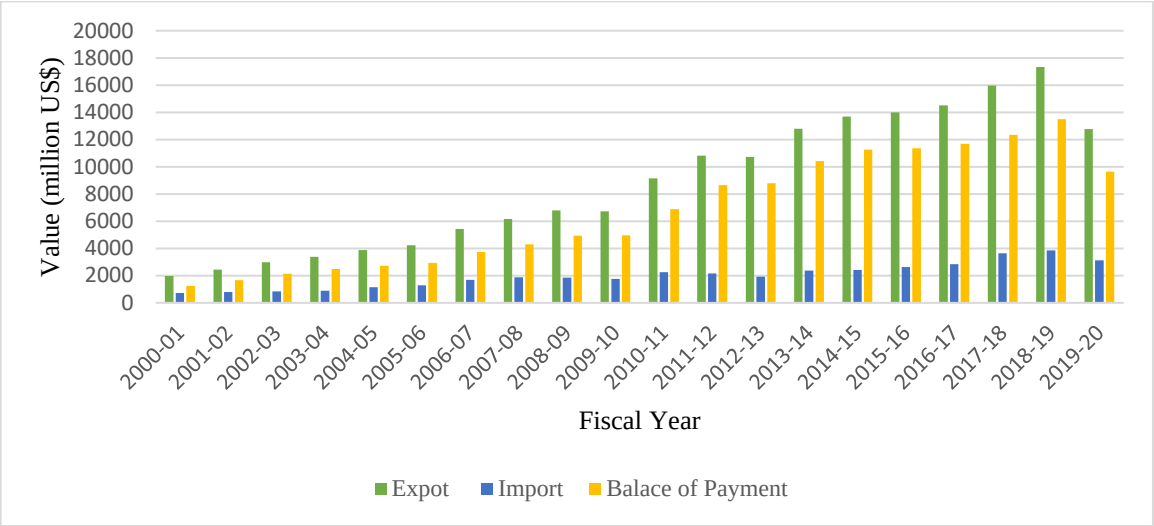
Table 11: Bangladesh Trade Balace with EU

Year	Export (Million USD)	Import (Million USD)	Balance of Payment (Million USD)
2000-01	1965	722.3	1242.7
2001-02	2454	796.1	1657.9
2002-03	2973	844.5	2128.5
2003-04	3383	898.2	2484.8
2004-05	3879	1153.2	2725.8
2005-06	4235	1294.3	2940.7
2006-07	5422	1689.7	3732.3
2007-08	6165	1872.3	4292.7
2008-09	6798	1855.9	4942.1
2009-10	6728	1764.9	4963.1
2010-11	9152	2263.7	6888.3
2011-12	10824	2166.7	8657.3
2012-13	10732	1931.8	8800.2
2013-14	12800	2371.9	10428.1
2014-15	13699	2426.7	11272.3
2015-16	13988	2622.6	11365.4
2016-17	14513	2833	11680
2017-18	15975	3638.3	12336.7
2018-19	17346	3852.3	13493.7
2019-20	12780	3136.3	9643.7

Source: Own elaboration based on data from Bangladesh Economic Review, 2021 (Excluding EPZ).

The overall scenario of Bangladesh's trade with the EU is depicted in the bar graph below, which shows Bangladesh's positive payment balance with the EU.

Figure 18: Trade balance of Bangladesh with the EU



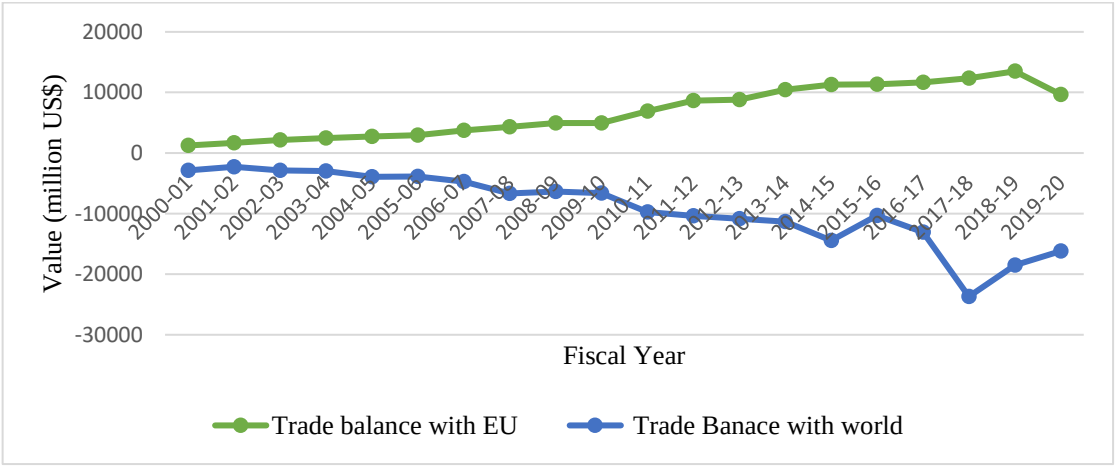
Source: Own elaboration based on data from Bangladesh Economic Review.

The graph above indicates that Bangladesh's net exports or balance of payments to the EU have been increasing since the 2000-01 fiscal year, but have suddenly decreased due to the covid-19 epidemic in the 2019-20 fiscal year.

4.4.2.1. Bangladesh Trade Balance Comparison with EU and World

In terms of Bangladesh's overall international trade, we can observe that since fiscal year 2000-01, Bangladesh has always had a positive trade balance with the EU market and a negative trade balance with the rest of the world. Bangladesh exports more to the EU and imports more from the rest of the world, as seen by the graph below.

Figure 19: Trade balance of Bangladesh



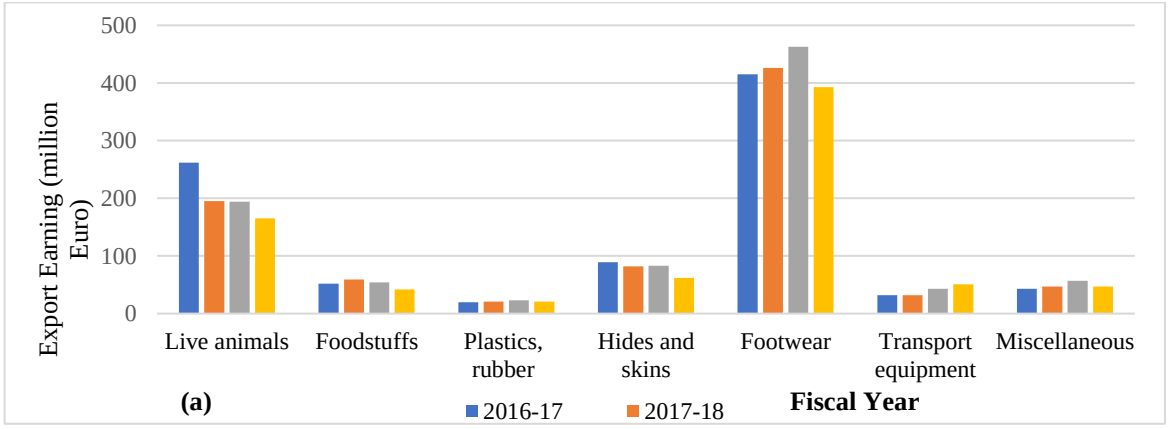
Source: Own elaboration based on data from Bangladesh Bank.

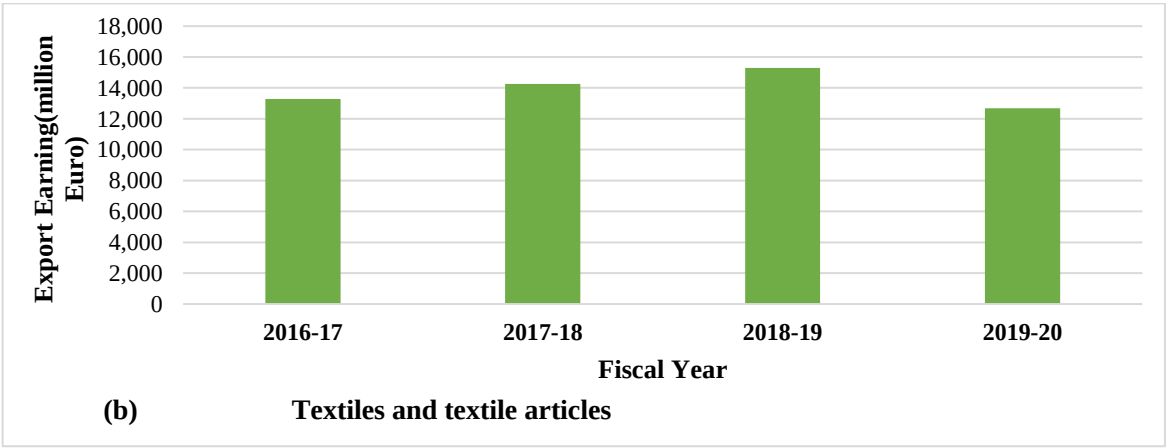
4.4.3.Commodity Structure and volume of Bangladesh Export to EU

The EU is the single most important buyer of Knit-wear from Bangladesh, according to a sectoral breakdown of Bangladesh's exports by destination. The dominance of Readymade Garment (70 per cent of total exports) is a major component of Bangladesh's export structure since the country is predominantly reliant on imported raw materials made accessible through a preferential trade policy in the EU with quota-free and duty-free access. (C.Sikder & Chakraborty, 2005).

Figure 20(a) shows just textile and textiles articles, whereas figure 20(b) only shows textile and textiles articles. The chart shows that textiles items dominate Bangladesh's overall exports to the EU, followed by footwear, however, textiles is not compared to other export commodities because of the huge market share of textiles in the EU.

Figure 20:Export Commodity Structure to EU a) all other commodity b) textile products



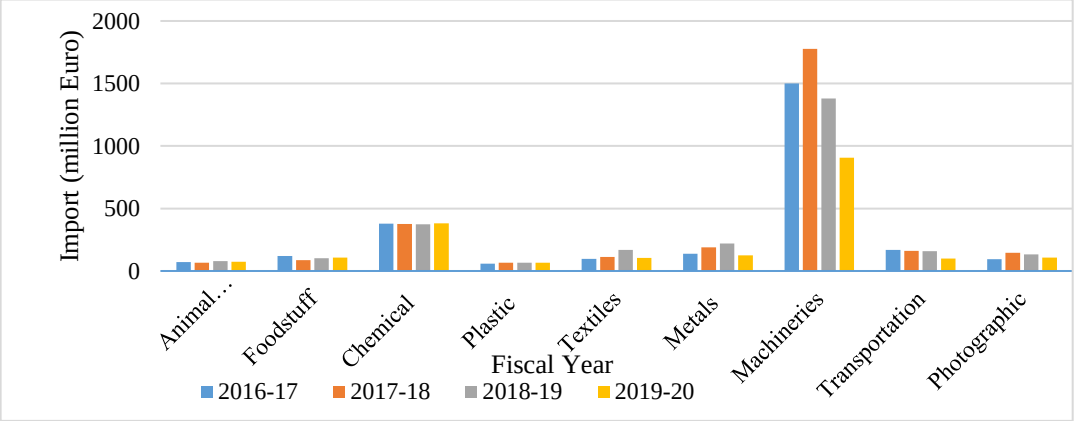


Source: Own elaboration based on data from the European commission

4.4.4. Commodity Structure of Bangladesh Import from the EU

In recent years, machineries and equipment have dominated Bangladesh's imports from the EU. Machineries items and equipments from the EU account for roughly 49 percent of imports in Bangladesh when compared to other commodities.

Figure 21: Import Commodity Structure from the EU

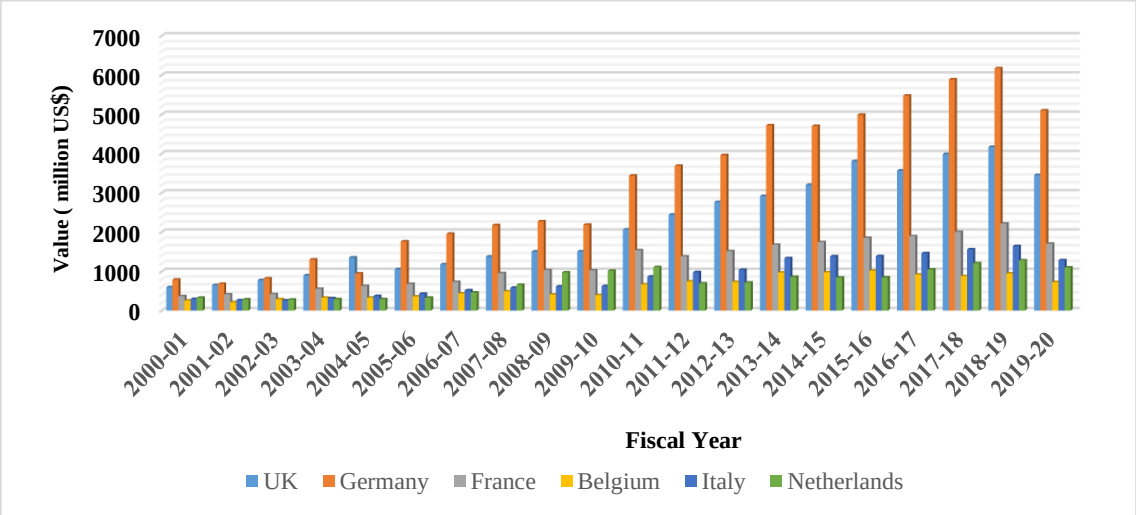


Source: Own elaboration based on data from European commission

4.4.5. Bangladesh Export to major European countries:

When it comes to Bangladesh's exports to EU markets, the EU nations pale in comparison. It is notable that Germany is ranked first, followed by the United Kingdom and France. Although the United Kingdom will no longer be a member of the EU after 2020, I must include it in this thesis because my analysis covers the years 2001 to 2020.

Figure 22: Bangladesh Export receive from major European countries



Source: Own elaboration based on data from Bangladesh Economic Review.

4.5. The Contribution of the EU to Bangladesh's Economic Development

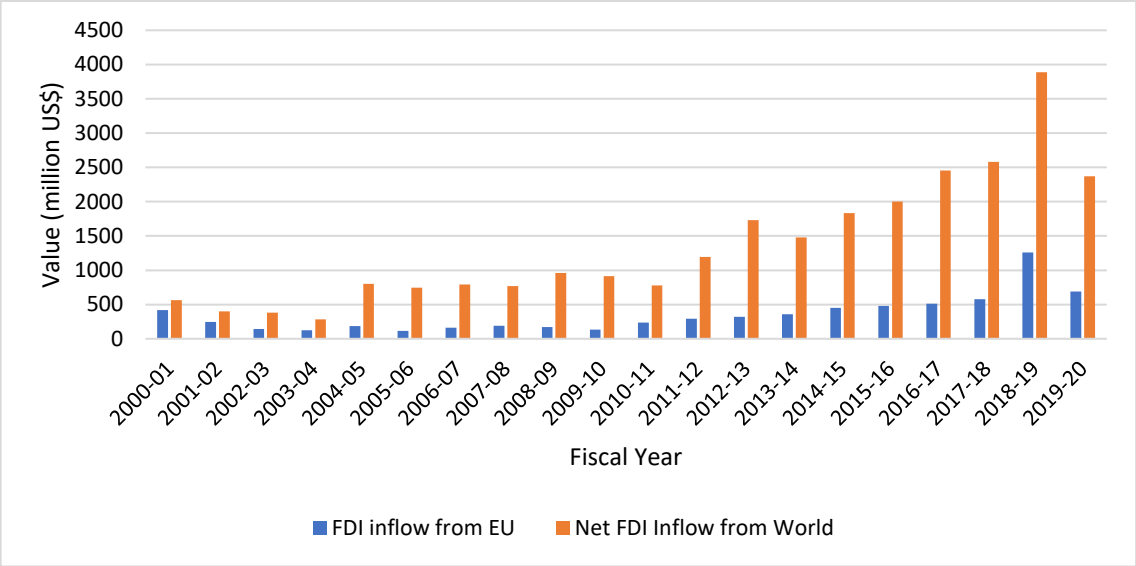
Without trade relations, the EU supports Bangladesh's economic growth in a variety of ways, the two most important of which are outlined here.

4.5.1. Foreign Direct Investment (FDI) in Bangladesh from the EU

Foreign direct investment (FDI) plays a variety of roles in the economic development of Bangladesh. FDI and economic development have a beneficial relationship in the majority of cases. Bangladesh has had great success attracting foreign direct investment (FDI) since 2001. Bangladesh's economic progress has been aided significantly by the inflow of FDI.

According to the following data, Bangladesh received 2370.45 million USD from the rest of the world and 691.77 million USD from the EU in FDI net inflows in 2019-20, compared to 3888.99 and 1257.67 million USD in 2018-19.

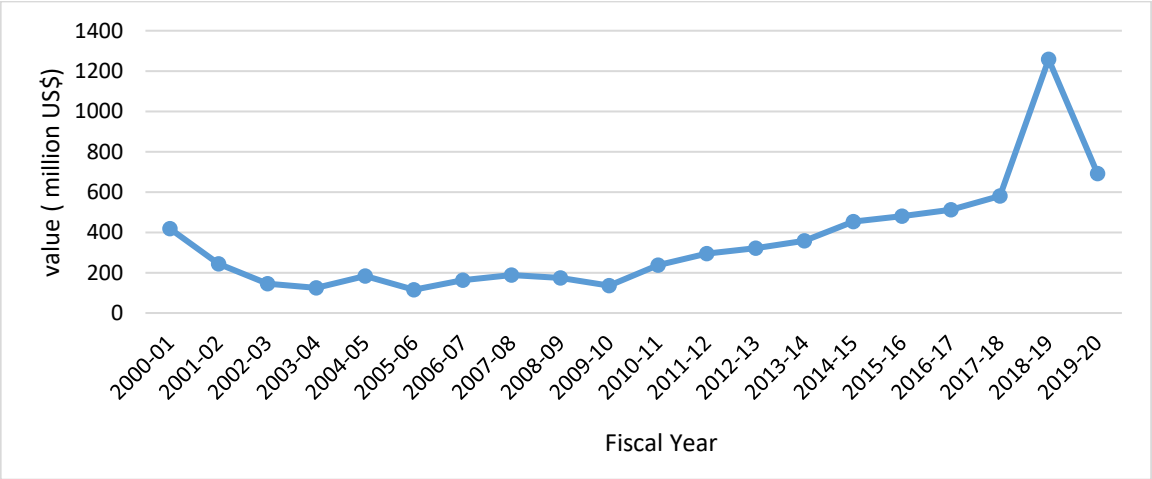
Figure 23: Net FDI Inflows in Bangladesh from the EU



Source: Own elaboration based on data from the Bangladesh Statistical Yearbook.

One of the most important determinants of Bangladesh's international trade development is foreign direct investment. The trend of FDI net inflow from the EU was nearly upward and steady until 2018 when the ratio skyrocketed to 1257.67 million USD in 2019 from 579.81 million USD in 2018. However, in 2020, the EU shocked the nation by revealing net FDI inflows of 691.77 million USD. The graph below shows the trend of net FDI inflows from European Union countries during the last 20 years, from 2001 to 2020.

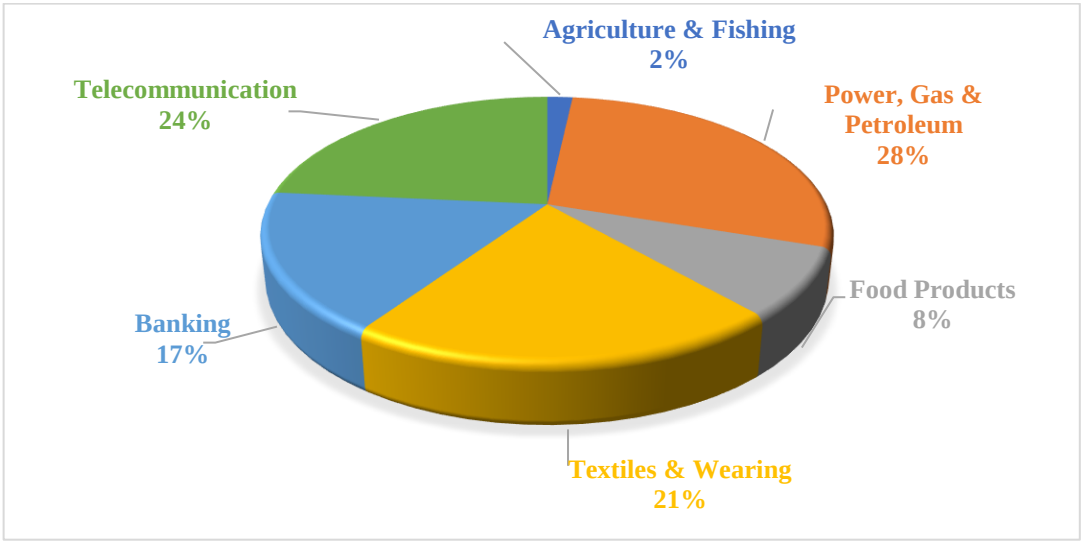
Figure 24: Net FDI Inflows in Bangladesh from EU



Source: Own elaboration based on data from Bangladesh Statistical Year book, 2021.

The European Union is a crucial block from which Bangladesh receives the majority of its net FDI inflows. The top six European Union nations that contribute FDI to Bangladesh are Denmark, France, Germany, the Netherlands, Sweden, and the United Kingdom (until 2020). According to the following table, Bangladesh received the highest net FDI amount of 802.84 million USD from the Netherlands in 2019 and 435.36 million USD from the United Kingdom in 2020.

Figure 25: Net FDI Inflows by Sectors in Bangladesh(average 2001-2020)



Source: Own elaboration based on data from Bangladesh Statistical Year book, 2021.

The graph above depicts the key industries receiving FDI inflows, with Power, Gas, and Petroleum and Textiles and Wearning occupying the highest positions with 28% and 21%, respectively.

Table 12: Net FDI inflow from Major EU countries (Million US$)

Year	Denmark	France	Germany	Netherlands	Sweden	UK
2000-01	58.96	10.38	7.57	179.69	-	162.5
2001-02	30.6	54.81	2.41	88.5	-	67.55
2002-03	6.52	69.89	1.96	24.52	-	41.95
2003-04	19.45	0.68	5.86	17.62	-	79.62
2004-05	14.91	0.94	1.02	10.71	-	153.5
2005-06	19.97	0.8	1.57	14.9	-	77.88
2006-07	10.07	-	6.18	18.21	4.73	123.7
2007-08	7.27	0.37	6.23	22.09	1.64	149.8
2008-09	4.14	4.84	5.6	39.93	10.55	105.6
2009-10	7.57	2.25	5.75	48.75	0.61	66.5
2010-11	8.81	2.46	2.64	71.41	1.86	144.64
2011-12	22.02	9.61	4.45	119.7	0.09	128.19
2012-13	14.5	12.89	17.05	84.96	7.21	159.49
2013-14	9.03	11.61	28.63	130.35	8.94	145.89
2014-15	30.69	8.93	18.94	97.77	6.53	273.55
2015-16	11.2	10.97	17.42	78.67	19.08	306.96
2016-17	8.51	14.64	24.84	90.04	18.2	313.87
2017-18	15.28	19.36	32.46	108.63	10.17	372.72
2018-19	18.92	17.44	15.08	802.84	23.44	358.85
2019-20	20.23	12.42	13.21	159.11	25.6	435.36

Source: FIED Management Cell, Statistics Department, Bangladesh Bank, 2021

4.5.2 Foreign aid from the EU:

One of the most significant areas of international cooperation is foreign aid. Bangladesh receives a substantial amount of foreign help from the EU, which ranks first among assisting nations. Bangladesh is one of the top receivers of EC aid to developing countries and ranks second in Asia after India.

The initial phase of EC cooperation in Bangladesh focused on improving infrastructure (such as irrigation and roads) and rural development (agricultural production and integrated rural development programs). Since the fiscal year 2000-01, the ration of EU funding has been increasing.

Table 13: Net bilateral aid inflows from DAC donors

year	EU institutions (US$ Million)	EU countries (US$ Million)	Total from world (US$ Million)
2000-01	73.93	359.63	653.19
2001-02	24.73	266.1	547.6
2002-03	52.33	501.3	757.38
2003-04	58.18	479.52	714.4
2004-05	78.30	468.21	658.66
2005-06	100.87	421.69	579.48
2006-07	101.44	566.29	775.88
2007-08	194.47	705.4	1017.13
2008-09	131.86	625.56	849.69
2009-10	188.64	694.23	1061.22
2010-11	159.11	782.68	1241.5
2011-12	128.21	693.21	1439.18
2012-13	119.97	816.66	1567.25
2013-14	98.23	668.68	1479.48
2014-15	79.44	500.9	1279.99
2015-16	115.11	489.7	1336.73
2016-17	141.44	607.9	2366.24
2017-18	168.61	747.22	2522.98
2018-19	160.71	845.45	2682.17
2019-20	190.75	1098.92	2875.27

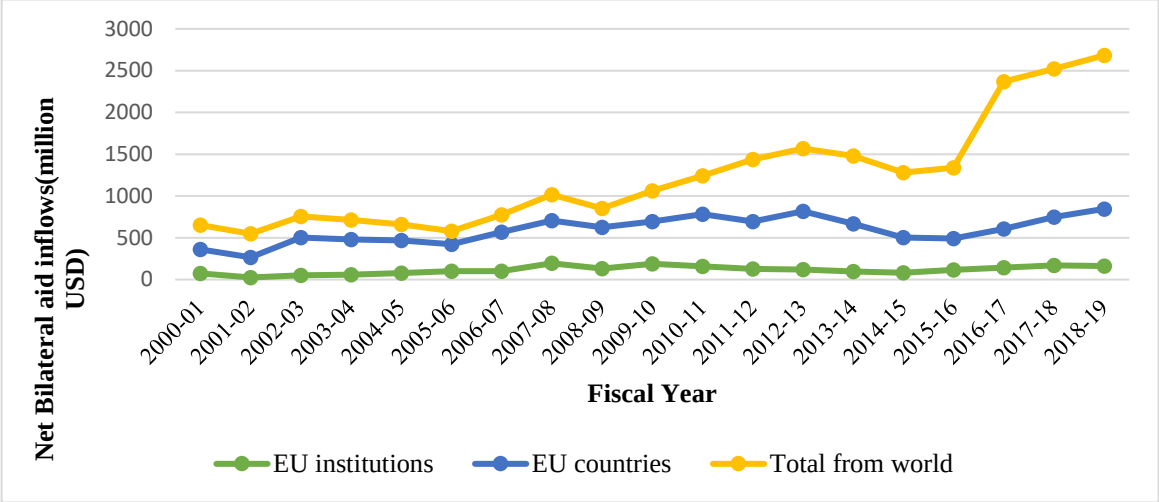
Source: World Bank

Net bilateral assistance flows are formal aid from members of the Development Assistance Committee (DAC). Since the fiscal year 2000-01, Bangladesh has received a considerable amount of help through the DAC. The vast majority of net DAC aid comes from European countries and the European Union.

Despite the fact that global assistance patterns fluctuate, net bilateral aid inflows have been increasing since the fiscal year 2000-01. While global assistance trends change, the EU institutions and countries have followed a consistent pattern. The amount of assistance

provided by EU institutions follows a similar trend, however aid from EU member countries varies.

Figure 26: Net bilateral aid inflows from DAC donors

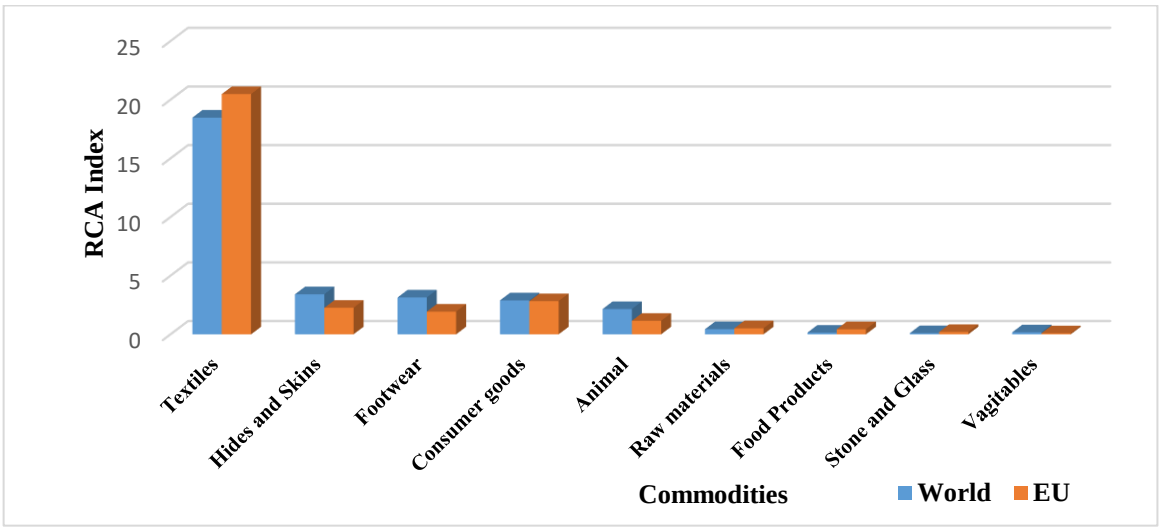


Source: Own elaboration based on data from World Bank.

4.6 Revealed Comparative Advantage of Bangladeshi Commodities

Bangladesh plays a significant position in the global and European Union markets. The data Reveal comparative advantage exists in the top nine export goods where Bangladesh is a specialist in such manufacturing items and Clothing has the highest RCA in this market.

Figure 27:RCA of Major Bangladeshi Products in EU and World market



Source: Own elaboration based on data from World Integrated Trade Solution (WITS).

According to the evidence in the following graph, Bangladesh has the largest average comparative advantage in EU markets compared to the world. it is indicating that Textiles.

4.6.1. Balassa Index of Bangladeshi Commodities in EU the Market

A country has a revealed comparative advantage when the Balassa index is greater than one. Surprisingly, Textiles and Clothing received the highest Balassa score among the manufacturing markets, with an average of 20.48 between 1996 and 2015. In the fields of hides and skins, footwear, consumer goods, and animal products, Bangladesh enjoys a competitive advantage and, raw materials, and vegetables have the lowest Balassa scores. I used overall average RCA because the Balassa indices findings were stable over 20 years.

Table 14: Balassa Index Major Commodities Export to EU

Commodities	Average RCA in EU last 20 years	Remarks
Textiles and Clothing	**20.48113**	**Comparative advantage**
Hides and Skins	**2.264976**	**Comparative advantage**
Footwear	**1.935811**	**Comparative advantage**
Consumer goods	**2.832026**	**Comparative advantage**
Animal	**1.155498**	**Comparative advantage**
Raw materials	0.51598	Comparative disadvantage
Food Products	0.435414	Comparative disadvantage
Stone and Glass	0.207134	Comparative disadvantage
Vagetables	0.094616	Comparative disadvantage

Source: Own elaboration based on data from World Integrated Trade Solution (WITS).

4.6.2. Export Potential of Bangladeshi Apparel Products

Bangladesh has a huge potential for garment exports. More than half of all exports are sent to the EU, and there is still a possibility for growth in this market Bangladesh's main export potential is shown in the table below.

Table 15: Bangladeshi Apparel's Export Potential

Product level	Description	World Market (USD million)	EU Market (USD million)
610910	T-shirts & vest of cotton	9300.00	6000.00
620342	Men's trousers & shorts of cotton	9300.00	5800.00
611020	Jerseys & similar of cotton	4700.00	3000.00
620462	Women's trousers& shorts of cotton	5700.00	3500.00
620520	Men's shirts of cotton	3200.00	1900.00
611030	Jerseys & similar of man-made fibres	4200.00	3000.00
610510	Men's shirts of cotton	1600.00	1100.00
610462	Women's trousers & shorts of cotton	2100.00	1500.00
610990	T-shirts & vests, nes	1300.00	834.00
611120	Babies' garments & accessories of cotton	1500.00	1000.00

Source: ITC Export Potential Map (obtained: February 20th, 2022)

T-shirts and vests of cotton, knit/crochet, men's and women's cotton trousers and shorts, and men's and women's cotton trousers and shorts have the highest export potential from Bangladesh to the world and EU markets.

4.6.3. Readymade Garments (RMG) of Bangladesh

Bangladesh's main sector, readymade garments, has essentially thrived in the competitive advantage of quota-free access to the EU market, while the country's shrimp industry has guaranteed its EU market share by enjoying duty-free access to the EU market by complying with EC sanitary requirements.

The dominance of Readymade Garment (70 percent of total exports) is a key characteristic of Bangladesh's export structure since it is heavily reliant on imported raw materials made accessible under a preferential trading policy in the EU, which includes quota-free and duty-free access.

Table 16: Readymade Garments (RMG) of Bangladesh

Fiscal Year	Total Export (Million USD)	RMG items		Non-RMG items	
		Value (Million USD)	% Share	Value (Million USD)	% Share
2000-01	6 467.30	4 860.56	75.16	1 606.74	24.84
2001-02	5 986.09	4 583.89	76.58	1 402.20	23.42
2002-03	6 548.44	4 912.10	75.01	1 636.34	24.99
2003-04	7 602.99	5 686.09	74.78	1 916.90	25.22
2004-05	8 654.52	6 417.67	74.15	2 236.85	25.85
2005-06	10 526.16	7 900.80	75.06	2 625.36	24.94
2006-07	12 177.86	9 211.23	75.64	2 966.63	24.36
2007-08	14 110.08	10 699.80	75.82	3 411.00	24.18
2008-09	15 565.19	12 347.77	79.33	3 217.42	20.67
2009-10	16 204.65	12 496.72	77.12	3 707.93	22.88
2010-11	22 928.22	17 914.46	78.13	5 013.76	21.87
2011-12	24 301.90	19 089.73	78.55	5 212.17	21.45
2012-13	27 027.36	21 515.73	79.61	5 511.63	20.39
2013-14	30 186.62	24 491.88	81.13	5 694.74	18.87
2014-15	31 208.94	25 491.40	81.67	5 717.54	18.32
2015-16	34 257.18	28 094.16	82.01	6 163.02	17.99
2016-17	34 846.84	28 149.84	80.78	6 697.00	19.22
2017-18	36 668.17	30 614.76	83.49	6 053.41	16.51
2018-19	40 535.04	34 133.27	84.21	6 401.77	15.79
2019-20	33 674.09	27 949.19	83.00	5 724.90	17.00

Source: Bangladesh Export Promotion Bureau, 2021

Table 17: Bangladesh's RMG Export to the EU

	Woven (million USD)		Knit (million USD)	
EU Countries	2018-19	2019-20	2018-19	2019-20
Belgium	354.47	223.01	401.71	272.9
Denmark	241.32	252.25	454.33	439.87
France	800.64	596.75	1187.19	936.3
Germany	2402.16	2199.6	3133.42	2692.84
Italy	504.56	376.78	927.99	744.18
Netherlands	444.29	387.25	559.78	526.42
Spain	1088.23	863.4	1298.12	1053.56
Sweden	234.33	197.05	410.92	342.15
Czech Republic	193.54	105.23	103.57	89.57
Poland	529.76	449.93	733.27	692.67
Other	179.79	125.54	323.04	282.82
Total Export to EU	6973.09	5776.78	9533.34	8073.28
EU% of World	52.91	53.65	70.69	69.69

Source: Bangladesh Garment Manufacturers and Exporters Association (BGMEA), 2021.

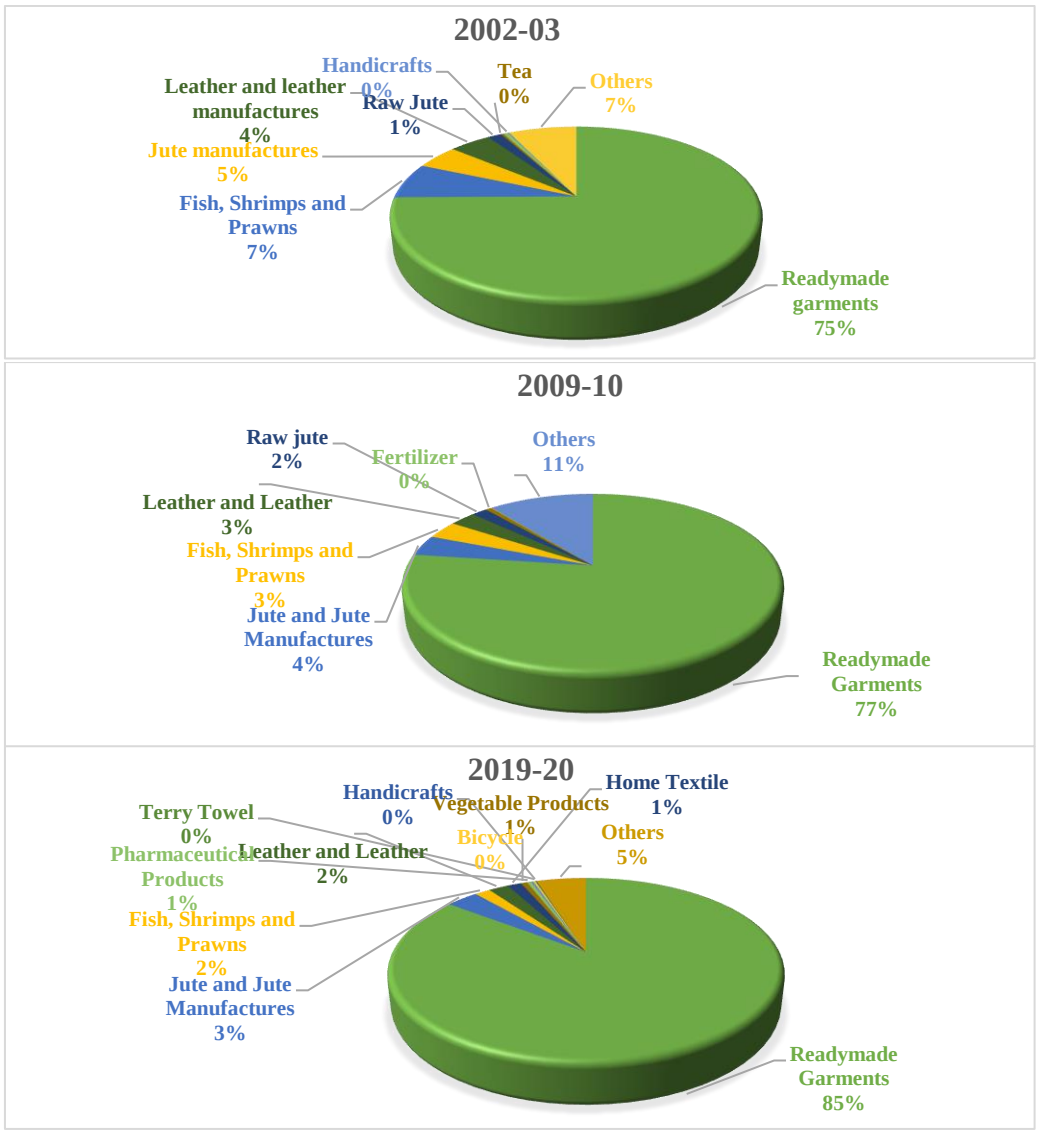
4.7.Trade structure change over 20 years in Bangladesh

This chapter will look at how the geographical and commodity structures of trade have changed in the previous 20 years, from 2001 to 2020, on both the export and import sectors.

4.7.1. Structure changed in export sector

Bangladesh's geographical and commodity export structures have significantly changed between 2001 and 2020. Three specific fiscal years have been chosen for the examination of a longer length of time.

Figure 28:Export commodity structure changes of Bangladesh Trade

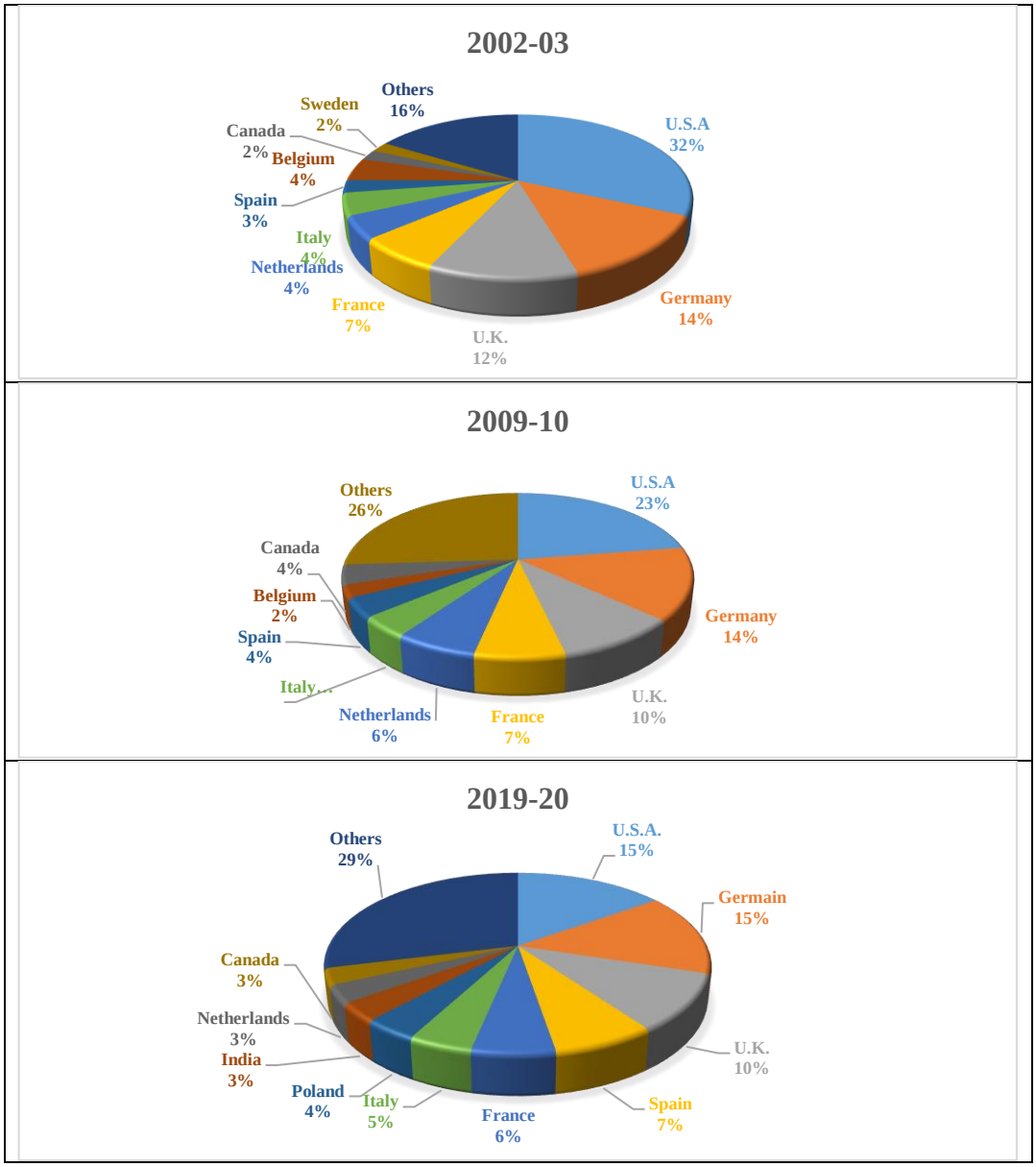


Source: Own elaboration based on data from Bangladesh Economic Review, 2021.

The figure-28 shows that readymade garments have dominated since 2001, with 85 percent of total export in 2020. In the fiscal years 2002-03, 2009-10, and 2019-20, the ratio of jute and manufactured goods decreased by 7%, 4%, and 3%, respectively. Other commodities do not vary significantly.

The geographical structure of Bangladesh export has been changed last 20 years. Although the United States is a significant market for Bangladeshi goods, the export ratio is dropping, with 32 %, 23 %, and 15% in 2003, 2010, and 2020, respectively. Meanwhile, exports to European nations have increased.

Figure 29: Export territory structure changes of Bangladesh Trade

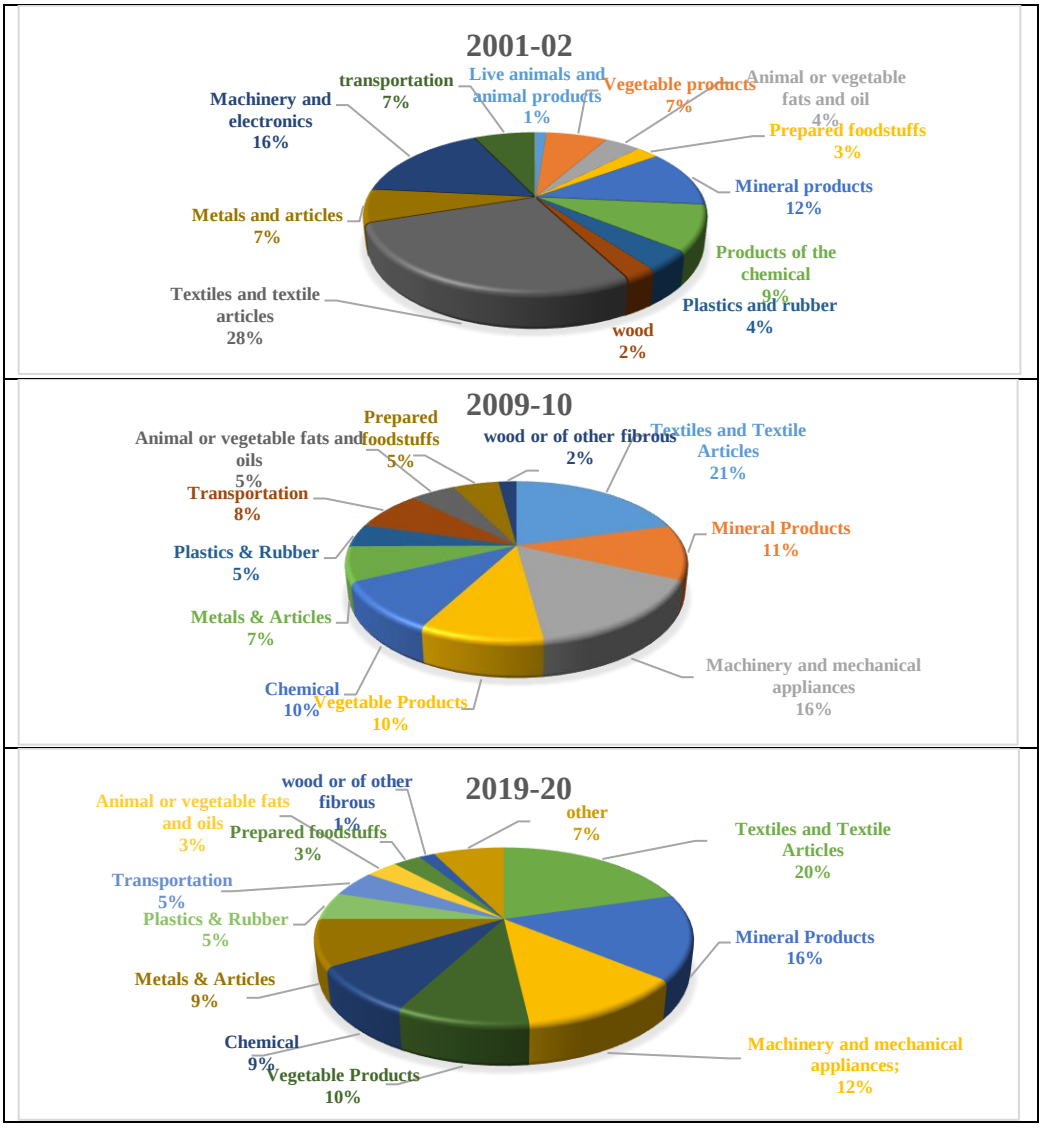


Source: Own elaboration based on data from Bangladesh Economic Review, 2021.

4.7.2. Structure changed in import sector

Bangladesh's import commodity and geographical structure have altered during the last 20 years. There have been no substantial changes in the import commodity structure, but there have been significant changes in textiles and textile articles, as well as mineral products. Bangladesh's textile and textile-related imports were supposed to fall to 20% by 2020, dropping from 28% in 2002. Imports of mineral products increased from 12% in 2002 to 16% in 2020.

Figure 30: Import commodity structure changed of Bangladesh Trade

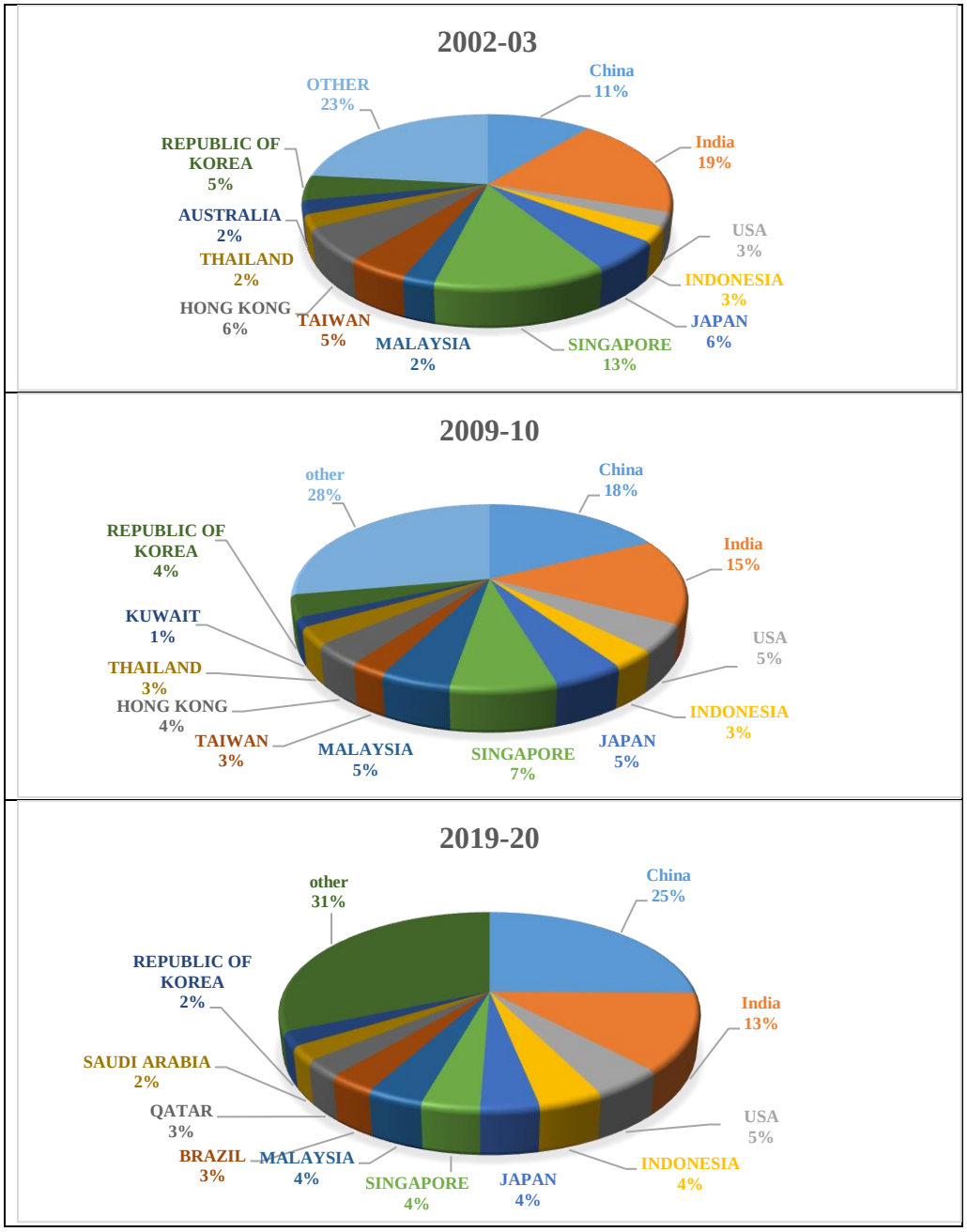


Source: Own elaboration based on data from Bangladesh Economic Review, 2021

Bangladesh's geographic area for the import destination has changed dramatically over the previous 20 years, with India accounting for 19 % imports in fiscal year 2002-03,

and Singapore and China accounting for 13% and 11% respectively. However, in the 2019-20 fiscal year, China remains Bangladesh's biggest import destination, accounting for 25% of total imports, followed by India at 13% and Singapore at 4%. Singapore is the 6th or 8th most popular import destination country in the 2019-20 fiscal year, while it was the 2nd most popular destination for Bangladeshi import items in the 2001-02 fiscal year.

Figure 31: Import territory structure changes of Bangladesh Trade



Source: Own elaboration based on data from Bangladesh Economic Review, 2021

4.8. Econometric Analysis

The main purpose of utilizing econometric analysis in this thesis is to see if there is an interrelation between Bangladesh's Per Capita GDP, Net Exports to EU, Foreign Exchange Reserve, Net FDI inflow from the EU, and EU Foreign Aid, and if there is, to explain how these variables impact on Bangladesh GDP.

4.8.1. Economic model

This objective may be represented algebraically as follows:

$$y_{1t} = f\ (x_{1t},\ x_{2t},\ x_{3t,}\ ) \qquad (5)$$

Where:

y_{1t} = Bangladesh GDP growth rate (%)

x_{1t} = Net Export of Bangladesh with EU in Million US$

x_{2t} = Bangladesh Net FDI inflow from EU in Million US$

x_{3t} = Net Bilateral Aid Inflows from EU in Million US$

The power function will be used to drive a linear equation in a natural logarithm since the variables are measured in various units. The economic model is as follows:

$$y_{1t} = x_{1t}^{y1}.\ x_{2t}^{y2}.\ x_{3t}^{y3} \qquad (6)$$

The endogenous variable Y_{1t} Bangladesh Per Capita GDP in Million US$ is assumed to be affected by the exogenous variables $x_{1t,}$ x_{2t}, x_{3t}, which are: Net Export value of Bangladesh with EU expressed in Million US$, Bangladesh Net FDI inflow from EU in Million US$, Net Bilateral Aid Inflows from EU in Million US$

All exogenous elements are assumed to have a direct relationship with the endogenous variable in the following assertions:

- As net export value rises, GDP per capita rises as well.
- When FDI rises, Per Capita GDP rises as well.
- As Foreign Aid rises, Per Capita GDP rises as well.

4.8.2 Econometric model

An econometric model will be generated from the economic model.

$$y_{1t} = x_{0t}^{y0} \cdot x_{1t}^{y1} \cdot x_{2t}^{y2} \cdot x_{3t}^{y3} \cdot U_t^e \qquad (7)$$

To estimate the parameters of the suggested econometric model the OLS method will be used. Since the OLS method can be applied only to models that are linear in parameters, the suggested model in a power function should be linearized. One of the ways to do so is to take the natural logarithms of both sides of the equation. As a result, we get a log-log model:

$$ln\ y_{1t} = \gamma_0 ln\ x_{0t} + \gamma_1 ln\ x_{1t} + \gamma_2 ln\ x_{2t} + \gamma_3\ ln\ x_{3t} + \gamma_4 ln x_{4t} + ln\ u_t \qquad (8)$$

4.8.3. Data set

Table 18: Main data

	GDP Per Capita (%)	Net Export with EU (million US$)	Net FDI Inflow from EU (million US$)	Net Bilateral Aid Inflows from EU (million US$)
Year	Y	X1	X2	X3
2000-01	674.17	1242.7	419.1	433.56
2001-02	687.38	1657.9	244.1	290.84
2002-03	707.61	2128.5	145.4	553.63
2003-04	732.75	2484.8	124.5	537.71
2004-05	769.14	2725.8	183.5	546.52
2005-06	809.47	2940.7	115.5	522.57
2006-07	856.05	3732.3	162.9	667.74
2007-08	897.19	4292.7	187.7	899.88
2008-09	931.99	4942.1	173.3	757.43
2009-10	972.91	4963.1	135.9	882.88
2010-11	1024.02	6888.3	237.3	941.79
2011-12	1078.2	8657.3	294.8	821.42
2012-13	1129.99	8800.2	320.8	936.63
2013-14	1148.86	10428.1	358.8	766.91
2014-15	1248.45	11272.3	453.4	580.35
2015-16	1322.68	11365.4	480.1	604.81
2016-17	1403.8	11680	512.3	749.34
2017-18	1498.39	12336.7	579.8	915.84
2018-19	1603.95	13493.7	1257.7	1006.16
2019-20	1625.67	9643.7	691.8	1289.67

Source: Own elaboration based on data taken from the World Bank, Bangladesh Bank, Bangladesh export Promotion Bureau, Bangladesh Economic Review, 2021.

A correlation matrix was generated in Gretl. using the aforementioned data, which provided the following results:

Table 19: Multicollinearity of the original data set

Net Export with EU	Net FDI Inflow from EU	Net Bilateral Aid Inflows from EU	
1.0000	0.7288	0.5801	Net Export with EU
	1.0000	0.4583	Net FDI Inflow from EU
		1.0000	Net Bilateral Aid Inflows from EU

Source: Gretl results.

The picture shows that there is no multicollinearity among the exogenous variables therefore the econometric analysis can proceed to the next phase.

The table below indicates that adding logs to the exogenous variables does not show multicollinearity present.

Table 20: Multicollinearity of data with the natural logarithm

1_ Net Export with EU	1_ Net FDI Inflow from EU	1_ Net Bilateral Aid Inflows from EU	
1.0000	0.6479	0.7209	1_ Net Export with EU
	1.0000	0.3689	1_ Net FDI Inflow from EU
		1.0000	1_ Net Bilateral Aid Inflows from EU

Source: Gretl results.

4.8.4. Estimation of parameters

The parameters of this model were calculated and reported in following the table using Gretl software.

Table 21: Estimated Parameters

Parameters	Value of Parameters
γ_0 = Constant	404.792
γ_1 = Net Export of Bangladesh with EU in millions of US$	0.0470958
γ_2 = Net FDI inflow from the EU in millions of US$	0.262723
γ_3 = Net Bilateral Aid Inflows from EU in million US$	0.324860

Source: Own elaboration based on Gretl's results

The final equation will be obtained by substituting the aforementioned results into the one-equation econometric model**.**

$$ln\ \hat{y_{1t}} = 404.792 + 0.0470958 ln\ x_{1t} + 0.262723 ln\ x_{2t} + 0.324860 ln\ x_{3t} \quad (9)$$

4.8.5. Economic verification

To carry out economic verification, the direction and intensity of the estimated parameters must be assessed. It is possible to reach the following conclusions:

- If the net export volume of Bangladesh with EU increases by 1%, Bangladesh's per-capita GDP grows by 0.0470958%, ceteris paribus.

  The intensity of the calculated parameter is acceptable, which is consistent with the assumption of a direct relationship between net export and per capita GDP in Bangladesh.

- If net Foreign Direct Investment (FDI) inflows from the EU to Bangladesh increase by 1%, Bangladesh's per capita GDP increases by 0.262723, ceteris paribus.

  This corresponds to the assumption of a direct relationship between net FDI inflows and Bangladesh per capita GDP. However, the intensity may be higher than expected.

- If the value of Net Bilateral Aid inflows from EU increases by 1%, Bangladesh's per capita GDP increases by 0.324860 per cent, ceteris paribus.

  This conclusion is consistent with the notion of a direct link between Net Bilateral Aid Inflows from EU and per capita GDP in Bangladesh

Based on the above findings, it can be stated that the Net Bilateral Aid inflows from EU have the greatest impact on Bangladesh's per capita GDP, with a concentration of 0.324860 per cent.

4.8.6. Statistical verification

The coefficient of determination R^2 is 0.952197, indicating that the suggested model based on the selected exogenous variables explained 95.2197 % of the variability in the endogenous variable.

Statistical significance of estimated parameters: t-test

Null hypothesis (H_0): A studied parameter is not statistically significant ($\gamma_i \approx 0$).

Alternative hypothesis (H_1): A studied parameter is statistically significant ($\gamma_i \neq 0$).

- The level of significance has chosen for this model is $\alpha = 0.05$
- The model has 4 parameters and 20 observations.
- The degree of freedom = 20 – 4 = 16
- Base on level of significance $\alpha = 0.05$; T-table value or critical T-value = 2.120 (two tails)

Table 22: Estimated parameters: t-test

Parameters	γ_0	γ_1	γ_2	γ_3
T-ratio	7.296	7.194	2.887	3.672
Critical T-value	2.120	2.120	2.120	2.120
Comparison of T-value	7.296>2.120	7.194>2.120	2.887>2.120	3.672>2.120
Hypothesis	Rejected H_o	Rejected H_o	Rejected H_o	Rejected H_o

Source: My elaboration is based on Gretl results and t-table.

As seen in the above table, every parameter (γ_0, γ_1, γ_2, and γ_3) is statistically significant. So, in this case, it can say that the coefficient is statistically significant.

F test: to determine the statistical significance of the entire model.

In Gretl, the calculated F-value F(3,16) is 106.2362. This number is bigger than the F critical value of 8.91e-11 for given degrees of freedom (n-p; α).

Take into consideration the hypotheses:

Null hypothesis (H_0): none of the explanatory variables are significant when considered together.

Alternative hypothesis (H_1): H_0 is not correct.

Since ***F*ˆ106.2362> F* (16-3; 0.10) 8.91e-11**, the model is statistically significant, and Null hypotheses (Ho) are rejected.

4.8.7. Econometric verification

- **White test for homoscedasticity**

Null hypothesis (H_0): Heteroskedasticity is absent

Alternative hypothesis (H_1): Heteroskedasticity is present

The resulting p-value from the White Test is 0.0250632, which is less than the significance level of $\alpha = 0.05$, indicating that there is significant heterogeneity on every dependent variable of the error term, implying that the null hypothesis cannot be rejected.

- **Durbin Watson test for the non-autocorrelation assumption**

The Durbin-Watson test is used to determine whether or not there is autocorrelation. In Gretl software, the Durbin-Watson value is 1.58247. The correlation is still normal and should not be a reason for worry because the value is between 1.5 and 2.5.

- **Breusch-Godfrey test for first-order autocorrelation**

This test is used to see whether there is any autocorrelation. In the case, the first-order autocorrelation of a random variable is investigated.

Godfrey's test hypothesis:

Null hypothesis (H_0): There is no autocorrelation.

Alternative hypothesis (H_1): Autocorrelation is present.

P-value = (F (1,15)> 0.0384767) = 0.847>0.05, Null hypotheses (H_O) is accepted. There is no autocorrelation.

- Independent variables in repeated samples are non-random and fixed.
- There is no multicollinearity. See the correlation matrix under the Data Set subsection.
- Jarque-Bera test was performed to determine the error term's normal distribution. This test has been utilized by Gretl to to verify the normal distribution of the error term.

5. Results and Discussion

This diploma thesis demonstrates that Bangladesh's trade with the entire world and the European Union has increased from 2001 to 2020. However, Bangladesh's overall trade balance has fluctuated over time, with the highest trade deficit in 2018 reaching -16284.8 million USD. Bangladesh has consistently a positive trade balance with the EU since 20001, with the highest value of 13493.7 million USD in 2019.

Bangladesh may be considered a prominent competitor in the EU market, with more than 90% of textiles and garment items imported from the country. Exports to the EU account for almost 60% of all exports from Bangladesh. The country's two major export and import sectors are textiles and clothing, as well as electrical equipment and machinery. Moreover, in this thesis Balassa index was generated to see whether Bangladesh has a comparative advantage in foreign trade because it accounts for the majority of the country's international trade. According to the Balassa index, Bangladesh has consistently indicated comparative advantage in this sector From 1996 to 2015. Other categories recognized as having continuous Balassa indices include hides and skins, footwear, consumer items, and live animals. These areas have the potential to become important sectors in the country's foreign trade if given enough attention and development.

Over the last 20 years, Bangladesh's overall trade structure (in terms of area and product) has changed. Export textiles and clothing now account for 85% of total export commodities, increased from 75% in the 2002-03 fiscal year. Furthermore, the EU's export market has expanded. Import commodity and territorial structure, on the other hand, have altered significantly over the previous 20 years, particularly for goods and services imports. Bangladesh currently relies on China, whereas it relied on India before 2010.

A regression analysis was conducted with data from 2001 to 2020 to see whether there is a relationship between the endogenous variable Bangladesh GDP per capita and exogenous variables such as net exports to the EU, net FDI inflows from the EU, and net bilateral aid from the EU. The calculations have been done using Gretl, and the results show a direct relationship between Bangladesh‘s GDP per capita and these variables. The total Net Bilateral Aid Inflows from EU, with a value of 0.324860, has the greatest significant influence on Bangladesh‘s GDP per capita among exogenous variables. Since the regression has been in the form of a natural logarithm, an increase in total Net Bilateral Aid Inflows

will result in a 0.324860 percent rise in Bangladesh GDP per capita, providing all other variables remain constant. In contrast, a 1% increase in net FDI inflow from the EU will result in a 0.262723 percent increase in GDP.

The effect of EU-Bangladesh trade relations on Bangladesh‘s Economic growth is quite low than expectation. According to the empirical findings, a 1% rise in Bangladesh's net export volume to the EU corresponds to a 0.0470958 percent increase in GDP per capita growth in Bangladesh. The little contribution suggests that a higher portion of export revenues is spent in non-productive purposes such as consumption.

After analyzing the EU-Bangladesh trade relationship, I have realized that Bangladesh will lose its competitive advantage if it fails to maintain its comparative advantage factors in the coming years, such as specialization and expansion, technical progress, natural resource endowment, international diplomatic foreign relations, and destination countries' export promotion policies (GSP). The government of Bangladesh is expected to place a greater emphasis on export-oriented industries and undertake initiatives to attract FDI inflows and other aspects to boost export volume and promote Bangladesh's economic growth.

6. Recommendation

The expansion of mutual trade of Bangladesh within the European Union requires a more proper collaboration of economic policies. The purpose of such collaboration is to eliminate any possible disparities in national policy initiatives, remove existing barriers, and minimize the formation of new trade and economic barriers and constraints between European Union member states.

The following topics are discussed to improve EU-Bangladesh economic and trade relations in the upcoming years.

- **FDI Attraction and Country Image**: In the international community, the image is not good due to its combative political culture, frequent strikes and corruption, inadequate energy and electricity supply, and underdeveloped infrastructure. Bangladesh's government should solve these concerns and attract foreign direct investment (FDI), which would promote international trade and economic growth.
- **Development of Port Facilities:** Bangladesh is located in the heart of Asia and is undergoing rapid development. The Indian Ocean and the Bay of Bengal comprise an important maritime route. Bangladesh has a unique opportunity to develop into a significant regional hub if its port facilities and infrastructure are properly constructed. Bangladesh will be able to fully capitalize on this opportunity, attracting FDI and expanding international trade.
- **Regional Connectivity:** For the future of Bangladeshi exports, good connectivity throughout the South Asian regions which will promote international trade. The Chittagong Hill Tracts agreement would eventually improve regional connectivity and help Bangladesh attract more foreign direct investment.
- **Improve Trade Support Services:** Trade-related infrastructure and support services would be enhanced to boost Bangladesh's export sectors and international competitiveness.
- **Diversification of Trade**: Bangladesh's RMG industry accounts for the majority of its export profits. Bangladesh should plan how to diversify its products on the international market in order to boost export volume.

- **Trade Success Requires Security:** Security is a key component of successful international trade. Bangladesh should collaborate with the European Union on non-combatant security official training. This will have a favourable impact on Bangladesh's security industry and trade.

If the Bangladesh government considers the aforementioned factors and takes steps to resolve these issues, I believe Bangladesh will be a leader in the world market and achieve economic progress.

7. Conclusion

This thesis concludes is that the trade relationship between the European Union and Bangladesh contributes to Bangladesh's economic growth. It is considered that foreign trade facilitation not only improves the balance of payments, but also creates jobs, increases economic activity, and promotes in economic development.

This thesis investigated the overall nature of EU-Bangladesh trade relations, as well as their impact on Bangladesh's GDP per capita growth and economic development. It also looked into Bangladesh's Reveal Comparative Advantage (RCA) in the European Union market, and also Bangladesh's export advantages under the EBA (Everything But Arms) of the Generalized System of Preferences. Fortunately, Bangladesh only has a trade surplus with the European Union, and its overall net export trend is increasing, with the exception of 2020. Bangladesh's trade with the EU has changed significantly since 2001 when a cooperation agreement between Bangladesh and the European Union was signed.

According to this diploma, the trend of net export, net FDI inflows, and bilateral aid inflows from the EU to Bangladesh has increased over the last 20 years from 2001 to 2020, though net export and net FDI inflows declined in 2020 due to the covid-19 pandemic, but net Bilateral aid inflows continued to increase. The effect of EU-Bangladesh trade relation on Bangladesh’s Economic growth is quite low than expectation. The empirical outcome indicates that a 1% increase net export volume of Bangladesh with EU leads to a 0.0470958% increase in GDP per capita growth in Bangladesh.

As a low-income country, Bangladesh dominated labour-intensive industries such as textiles and apparel. Bangladesh earns more money from this business because to cheap labour costs, preferential access, low investment costs, and low energy prices. To increase export volume and promote Bangladesh's economic growth, the government of Bangladesh is required to take a higher emphasis on export-oriented industries and take initiatives to attract FDI inflows and other aspects.

The EU-Bangladesh trade partnership has a considerable impact on Bangladesh's international trade and economic growth. I appreciate more research from the following stage of my analysis since obtaining a decent result requires more research and effort, which is not attainable in a master's thesis due to the constrained structure and time.

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9. Appendix

Table A1: Multicollinearity of original data set

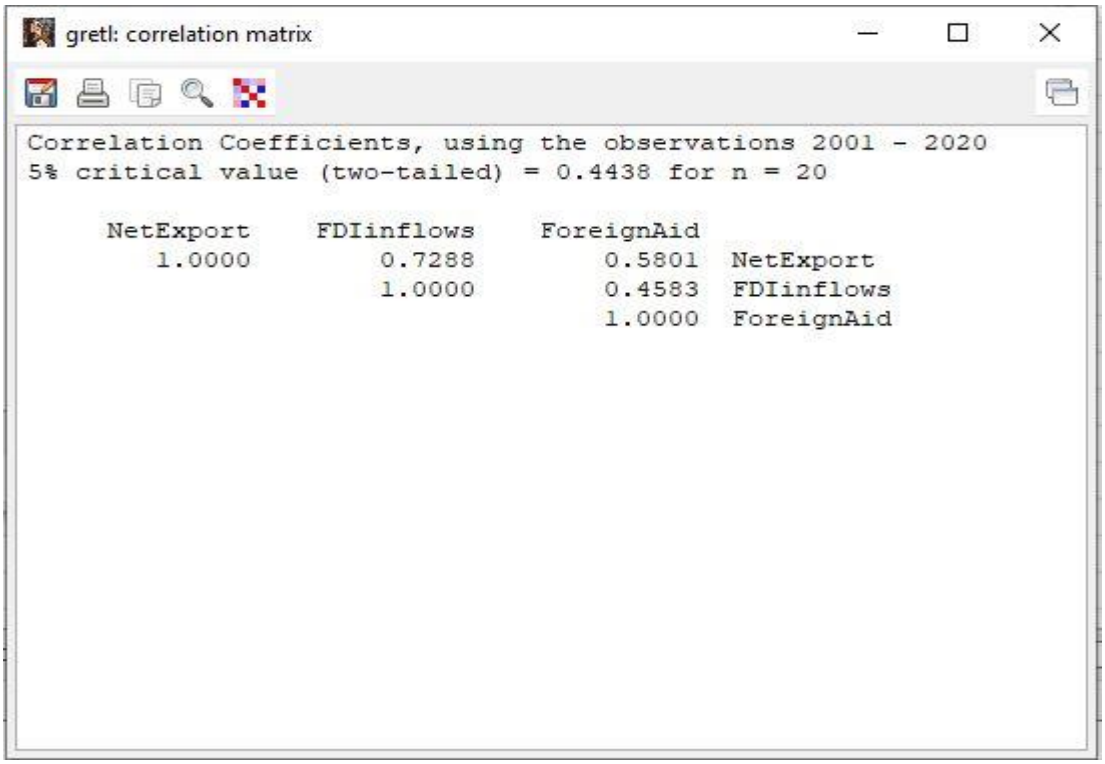


Table A2: Multicollinearity of data with natural logarithm

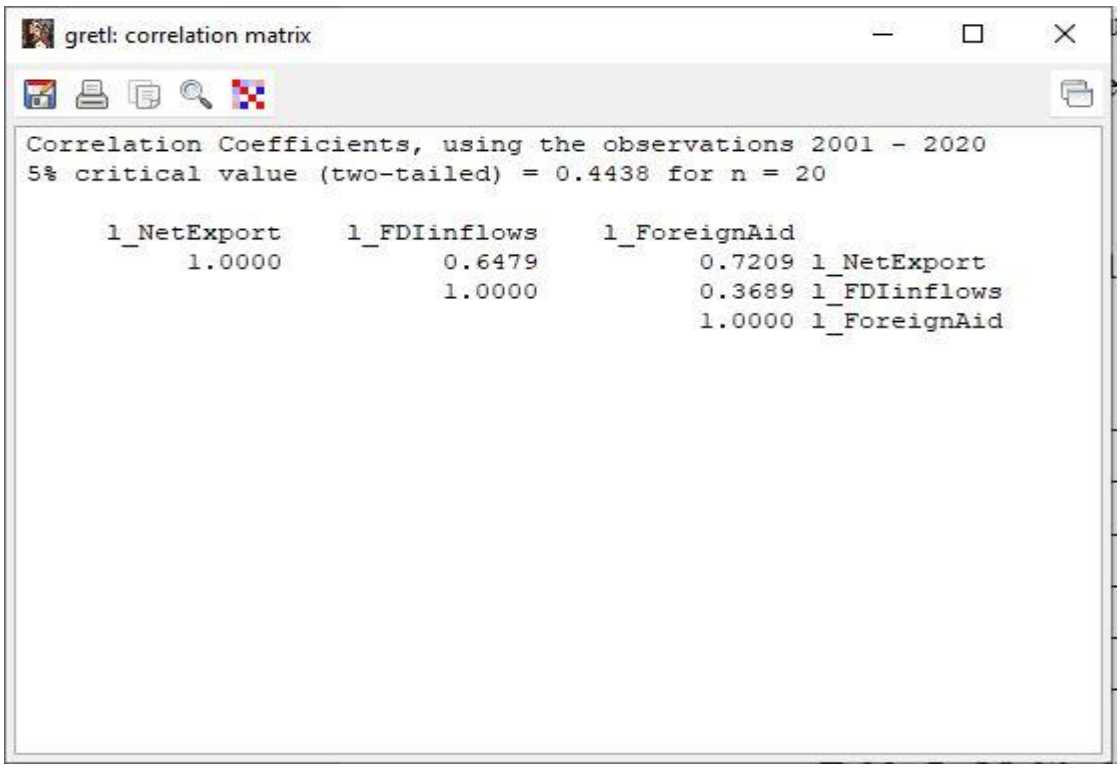
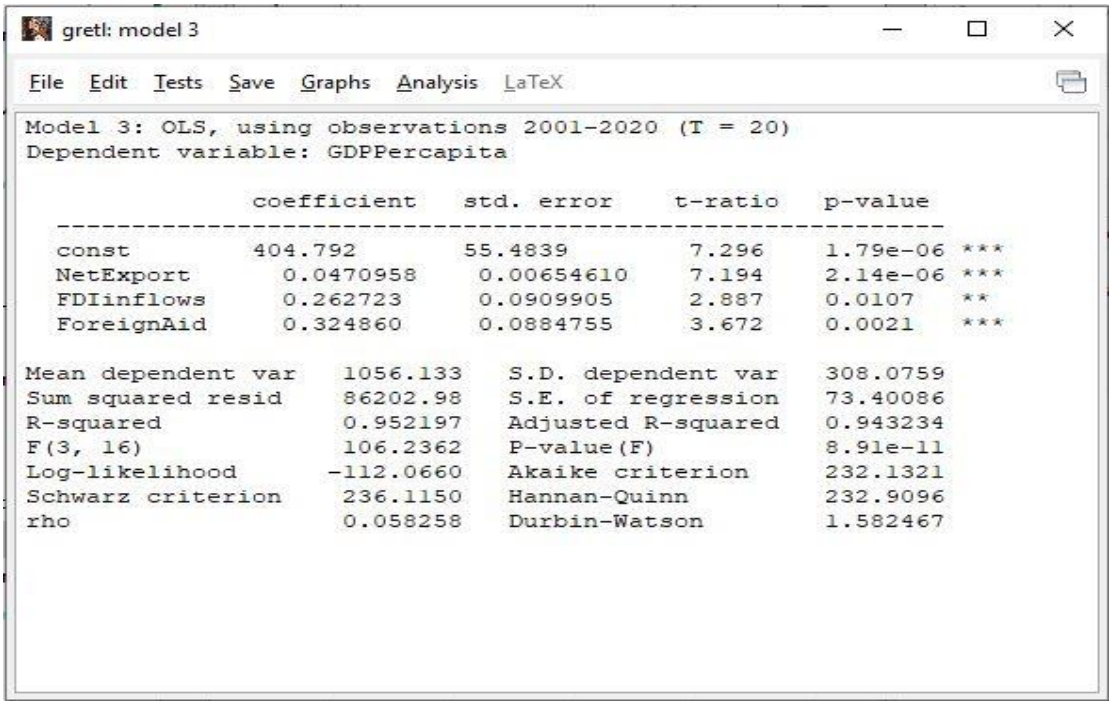


Table A3: Estimated Parameters



gretl: model 3

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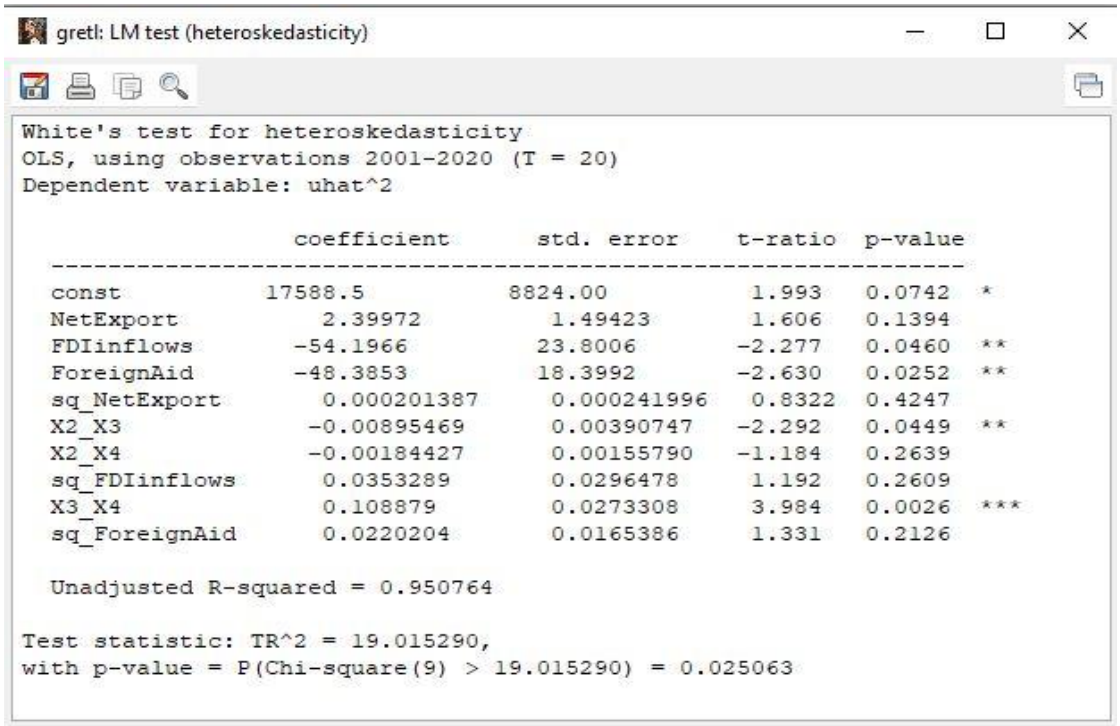
```
Model 3: OLS, using observations 2001-2020 (T = 20)
Dependent variable: GDPPercapita

               coefficient   std. error    t-ratio   p-value
  ------------------------------------------------------------
  const        404.792       55.4839        7.296    1.79e-06 ***
  NetExport      0.0470958    0.00654610    7.194    2.14e-06 ***
  FDIinflows     0.262723     0.0909905     2.887    0.0107   **
  ForeignAid     0.324860     0.0884755     3.672    0.0021   ***

Mean dependent var   1056.133   S.D. dependent var   308.0759
Sum squared resid    86202.98   S.E. of regression   73.40086
R-squared            0.952197   Adjusted R-squared   0.943234
F(3, 16)             106.2362   P-value(F)           8.91e-11
Log-likelihood      -112.0660   Akaike criterion     232.1321
Schwarz criterion    236.1150   Hannan-Quinn         232.9096
rho                  0.058258   Durbin-Watson        1.582467
```

Table A4 : White test for heteroskedasticity



gretl: LM test (heteroskedasticity)

```
White's test for heteroskedasticity
OLS, using observations 2001-2020 (T = 20)
Dependent variable: uhat^2

                  coefficient      std. error    t-ratio  p-value
  ---------------------------------------------------------------
  const          17588.5          8824.00         1.993   0.0742  *
  NetExport          2.39972         1.49423      1.606   0.1394
  FDIinflows       -54.1966         23.8006      -2.277   0.0460  **
  ForeignAid       -48.3853         18.3992      -2.630   0.0252  **
  sq_NetExport       0.000201387     0.000241996  0.8322  0.4247
  X2_X3             -0.00895469      0.00390747  -2.292   0.0449  **
  X2_X4             -0.00184427      0.00155790  -1.184   0.2639
  sq_FDIinflows      0.0353289       0.0296478    1.192   0.2609
  X3_X4              0.108879        0.0273308    3.984   0.0026  ***
  sq_ForeignAid      0.0220204       0.0165386    1.331   0.2126

  Unadjusted R-squared = 0.950764

Test statistic: TR^2 = 19.015290,
with p-value = P(Chi-square(9) > 19.015290) = 0.025063
```

Table A5 : Breusch-Godfrey test for first-order autocorrelation

gretl: autocorrelation

```
Breusch-Godfrey test for first-order autocorrelation
OLS, using observations 2001-2020 (T = 20)
Dependent variable: uhat

                coefficient    std. error     t-ratio    p-value
  ------------------------------------------------------------------
  const         -0.522306      57.2921       -0.009117   0.9928
  NetExport      0.000237702    0.00686001    0.03465    0.9728
  FDIinflows    -0.00494888     0.0971862    -0.05092    0.9601
  ForeignAid     0.00162800     0.0916367     0.01777    0.9861
  uhat_1         0.0645469      0.329061      0.1962     0.8471

  Unadjusted R-squared = 0.002559

Test statistic: LMF = 0.038477,
with p-value = P(F(1,15) > 0.0384767) = 0.847

Alternative statistic: TR^2 = 0.051171,
with p-value = P(Chi-square(1) > 0.051171) = 0.821

Ljung-Box Q' = 0.0363861,
with p-value = P(Chi-square(1) > 0.0363861) = 0.849
```

Table A6: Jarque-Bera test to determine the error term's normal distribution

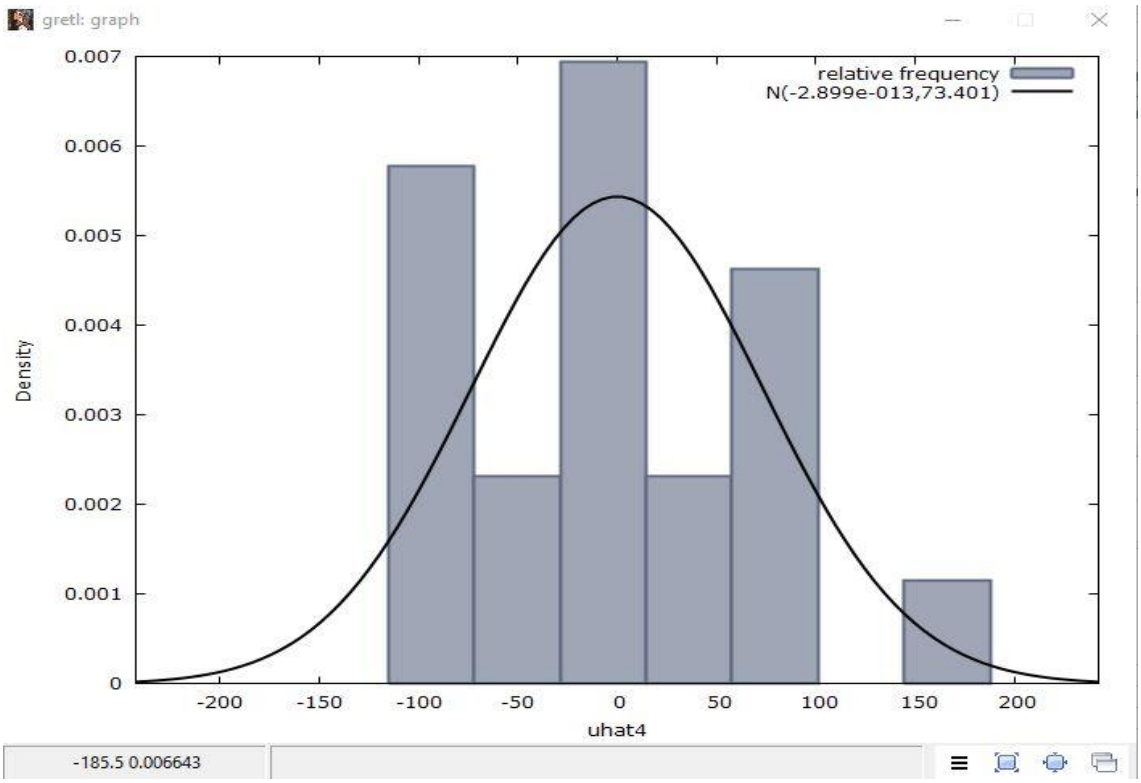


Table A7: Frequency of Normal Distribution.

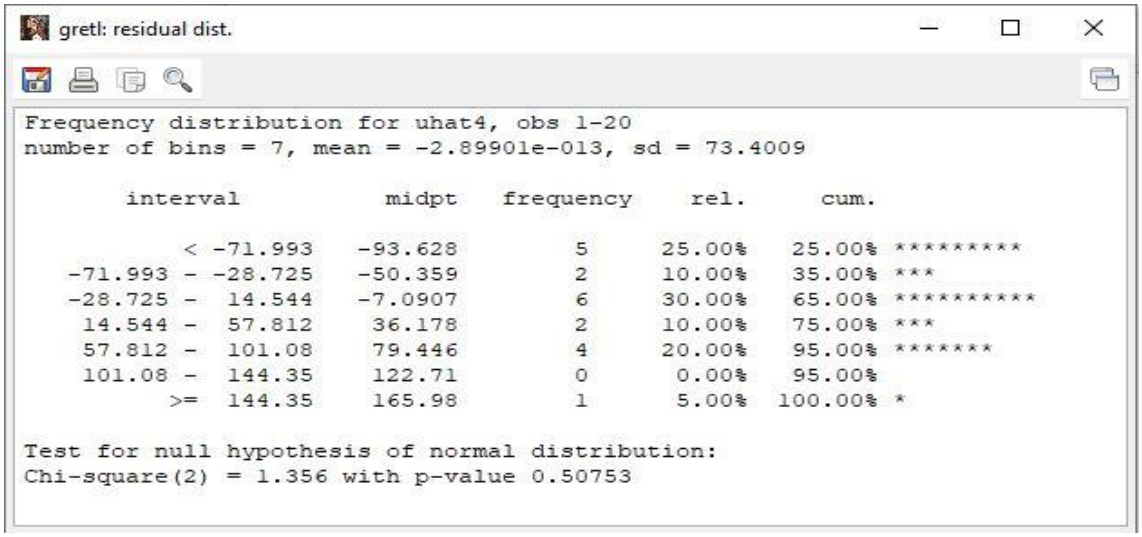


Table A8: Durbin Watson Test

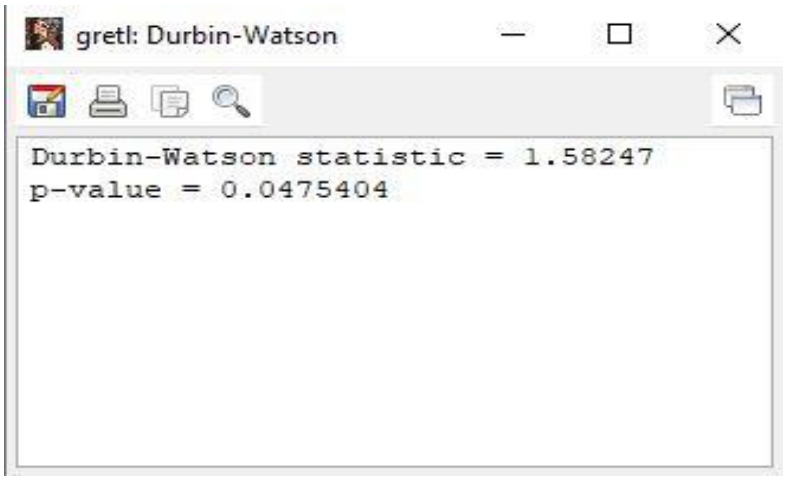


Table A9: Confidence Interval

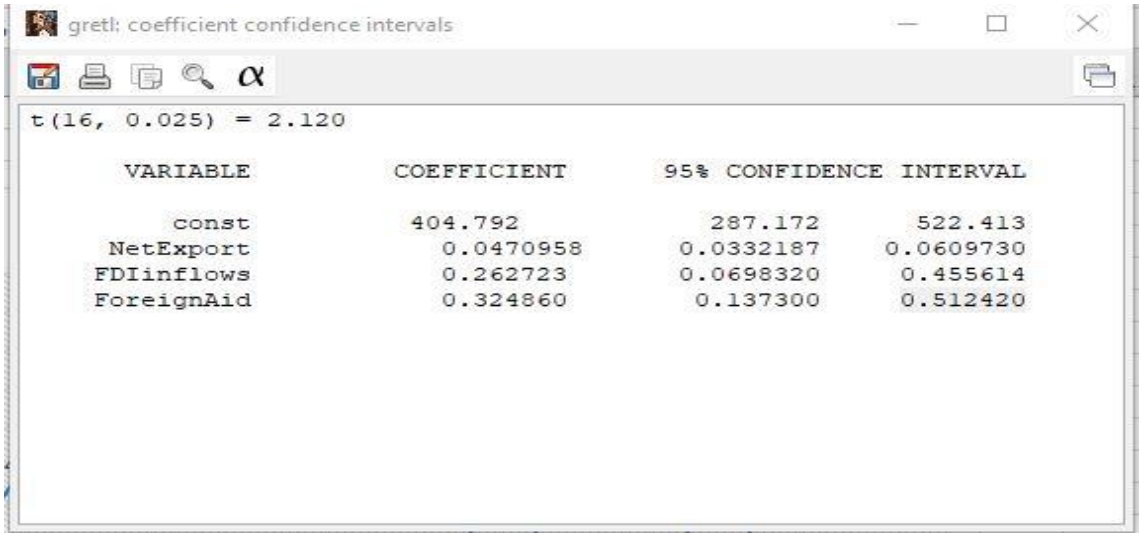


Table 10: Overall model

gretl: model 4

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```
Model 4: OLS, using observations 2001-2020 (T = 20)
Dependent variable: GDPPercapita

              coefficient   std. error    t-ratio   p-value
  ------------------------------------------------------------
  const        404.792       55.4839       7.296    1.79e-06 ***
  NetExport      0.0470958    0.00654610   7.194    2.14e-06 ***
  FDIinflows     0.262723     0.0909905    2.887    0.0107   **
  ForeignAid     0.324860     0.0884755    3.672    0.0021   ***

Mean dependent var   1056.133   S.D. dependent var   308.0759
Sum squared resid    86202.98   S.E. of regression   73.40086
R-squared            0.952197   Adjusted R-squared   0.943234
F(3, 16)             106.2362   P-value(F)           8.91e-11
Log-likelihood      -112.0660   Akaike criterion     232.1321
Schwarz criterion    236.1150   Hannan-Quinn         232.9096
rho                  0.058258   Durbin-Watson        1.582467

White's test for heteroskedasticity -
  Null hypothesis: heteroskedasticity not present
  Test statistic: LM = 19.0153
  with p-value = P(Chi-square(9) > 19.0153) = 0.0250632

Non-linearity test (squares) -
  Null hypothesis: relationship is linear
  Test statistic: LM = 9.94117
  with p-value = P(Chi-square(3) > 9.94117) = 0.0190729

Test for normality of residual -
  Null hypothesis: error is normally distributed
  Test statistic: Chi-square(2) = 1.35641
  with p-value = 0.507528

LM test for autocorrelation up to order 1 -
  Null hypothesis: no autocorrelation
  Test statistic: LMF = 0.0384767
  with p-value = P(F(1, 15) > 0.0384767) = 0.847122
```